

SEQUENCE LISTING

<110> MURPHY, GEORGE L.
WHITLEY, J. PENN

<120> METHOD AND SYSTEM FOR DEPLETING rRNA POPULATIONS

<130> AMBI:076JS

<140> UNKNOWN

<141> 2001-12-20

<160> 73

<170> PatentIn Ver. 2.1

<210> 1

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 1

ctgctgcctc ccgtaggagt ct

22

<210> 2

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 2

cgtattaccg cggctgctgg cac

23

<210> 3

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

1002337.12001

Sub A

<212> DNA
<213> Artificial Sequence

<220>

23

<220>

23

 $\langle 220 \rangle$

23

<220>

23

<210> 11
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Primer

<400> 11
 cttacccgac aaggaatttc gc 22

<210> 12
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Primer

<400> 12
 gagccgacat cgaggtgcca aac 23

<210> 13
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Primer

<400> 13
 ggttaagcct cacggttcat t 21

<210> 14
 <211> 14
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

TOP SECRET 265300F

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 18

tgccctccaa tggatcctcg tta

23

<210> 19

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 19

ctacggaaac cttgttacga ctt

23

<210> 20

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 20

gagcactggg cagaaatcac atc

23

<210> 21

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 21

gtttcttttc ctccgctgac taa

23

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Primer

<400> 22
tcctcagcca agcacataca cca

23

<210> 23
<211> 1427
<212> DNA
<213> Bacillus subtilis

<220>
<221> modified_base
<222> (554)..(873)
<223> N = A, C, G or T/U

<400> 23
gagagtttga tcctggctca ggacgaacgc tggcggcgtg cctaatacat gcaagtcgag 60
cggacagatg ggagcttgct ccctgatggt agcggcggac gggtagtaaa cacgtgggta 120
acctgcctgt aagactggga taactccggg aaaccggggc taataccgga tggttgtttg 180
aaccgcatgg ttcaaacata aaaggtggct tcggctacca cttacagatg gaccgcgggc 240
gcattagcta gttggtgagg taacggctca ccaaggcaac gatgcgtagc cgacctgaga 300
gggtgatcgg ccacactggg actgagacac ggcccagact cctacgggag gcagcagtag 360
ggaatcttcc gcaatggacg aaagtctgac ggagcaacgc cgcgtgagt atgaaggttt 420
tcggatcgta aagctctgtt gttagggaag aacaagtacc gttcgaatag ggcggtacct 480
tgacggtagc taaccagaaa gccacggcta actacgtgcc agcagccgcg gtaatacgtg 540
ggtggcaagc gttntccgga attattgggc gtaaagggtc cgcaggcggg ttcttaagtc 600
tgatgtgaaa gcccccggt caaccgggga gggtcattgg aaactgggga acttgagtgc 660
agaagaggag agtggaattc cacgtgtngc ggtgaaatgc gtagagatgt ggaggaacac 720
cagtggcgaa ggcgactctc tggctctgta ctgacgctga ggagcgaaag cgtggggagc 780
gaacaggatt agataccctg gtagtccacg ccgtaaacga tgagtgctaa gtgttagggg 840
gtttccgccc cttagtgtcg cagtaacgca ttnagcactc cgctgggga gtacggtcgc 900
aagactgaaa ctcaaaggaa ttgacggggg ccgcacaagc ggtggagcat gtggtttaat 960
tcgaagcaac gcgaagaacc ttaccagggtc ttgacatcct ctgacaatcc tagagatagg 1020
acgtcttcgg gggcagagt acaggtgggt catggttgct gtcagctcgt gtcgtgagat 1080
gttggtttaa gtcccgaac gagcgcaacc ctggatctta gttgccagca ttcagttggg 1140
cactctaagg tgactgccgg tgacaaaccg gaggaagggt gggatgacgt caaatcatca 1200
tgccccttat gacctgggct acacacgtgc tacaatggac agaacaaagg gcagcgaaac 1260
cgcgagggtta agccaatccc acaaatctgt tctcagttcg gatcgagtc tgcaactcga 1320
ctgcgtgaag ctggaatcgc tagtaatcgc ggatcagcat gccgcggtga atacgttccc 1380

10029397.12001

gggccttgta cacaccgccc gtcacaccac gagagtttgt aacaccc

1427

<210> 24

<211> 1544

<212> DNA

<213> *Bacillus anthracis*

<400> 24

gtttgatcct ggctcaggat gaacgctggc ggcggtgccta atacatgcaa gtcgagcgaa 60
tggattaaga gcttgctctt atgaagtttag cggcggacgg gtgagtaaca cgtgggtaac 120
ctgcccataa gactgggata actccgggaa accgggggcta ataccggata acattttgaa 180
ccgcatgggt cgaaattgaa aggcggcttc ggctgtcact tatggatgga cccgcgtcgc 240
attagctagt tggtaggta acggctcacc aaggcaacga tgcgtagccg acctgagagg 300
gtgatcggcc aactggggac tgagacacgg ccagactcc tacgggaggc agcagtaggg 360
aatcttccgc aatggacgaa agtctgacgg agcaacgccg cgtgagtgat gaaggctttc 420
gggtcgtaaa actctgttgt tagggaagaa caagtgctag ttgaataagc tggcaccttg 480
acggtacctt accagaaagc cacggctaac tacgtgccag cagccgcggg aatacgtagg 540
tggcaagcgt tatccggaat tattgggcgt aaagcgcgcg caggtgggtt ctttaagtctg 600
atgtgaaagc ccacggctca accgtggagg gtcattggaa actgggagac ttgagtgcag 660
aagaggaaaag tgggaattcca tgtgtagcgg tgaaatgcgt agagatatgg aggaacacca 720
gtggcgaaag cgactttctg gtctgtaact gacactgagg cgcgaaagcg tggggagcaa 780
acaggattag ataccctggg agtccacgcc gtaaacgatg agtgctaagt gttagagggt 840
ttccgccctt tagtgctgaa gttaacgcat taagcactcc gcctggggag tacggccgca 900
aggctgaaac tcaaaggaat tgacggggggc ccgcacaagc ggtggagcat gtggtttaat 960
tcgaagcaac gcgaagaacc ttaccagggtc ttgacatcct ctgacaacct tagagatagg 1020
gcttctcctt cgggagcaga gtgacagggt gtgcatgggt gtcgtcagct cgtgtcgtga 1080
gatgttgggt taagtcccg aacgagcgca acccttgatc ttagttgcca tcattaagtt 1140
gggcactcta aggtgactgc cgtgacaaa ccggaggaag gtggggatga cgtcaaata 1200
tcatgccccct tatgacctgg gctacacacg tgctacaatg gacggtacaa agagctgcaa 1260
gaccgcgagg tggagctaata ctcataaaac cgttctcagt tcggattgta ggctgcaact 1320
cgcctacatg aagctggaat cgctagtaat cgcggatcag catgccgcgg tgaatacgtt 1380
cccgggcctt gtacacaccg ccgctcacac cacgagagtt tgtaacaccc gaagtcggtg 1440
gggtaacctt tttggagcca gccgcctaag gtgggacaga tgattggggg gaagtcgtaa 1500
caaggtagcc gtatcggaag gtgcggctgg atcacctcct ttct 1544

<210> 25

<211> 1449

<212> DNA

<213> *Enterococcus faecalis*

<400> 25

cgaacgctgg cggcggtgcct aatacatgca agtcgaacgc ttctttcctc ccgagtgcct 60
gcactcaatt ggaaagagga gtggcgacg ggtgagtaac acgtgggtaa cctacccatc 120
agagggggat aacacttgga aacagggtgct aataccgcat aacagtttat gccgcatggc 180
ataagagtga aaggcgcttt cgggtgtcgc tgatggatgg acccgcggtg cattagctag 240
ttggtgaggt aacggctcac caaggccacg atgcatagcc gacctgagag ggtgatcggc 300

cacactggga ctgagacacg gccagactc ctacgggagg cagcagtagg gaatcttcgg 360
 caatggacga aagtctgacc gagcaacgcc gcgtgagtga agaagggtttt cggatcgtaa 420
 aactctgttg ttagagaaga acaaggacgt tagtaactga acgtcccctg acggatatcta 480
 accagaaagc cacggctaac tacgtgccag cagccgcggg aatacgtagg tggcaagcgt 540
 tgtccggatt tattgggctg aaagcgagcg caggcggttt cttaagtctg atgtgaaagc 600
 ccccggtcca accggggagg gtcattggaa actgggagac ttgagtgcag aagaggagag 660
 tgggaattcca tgtgtagcgg tgaaatgcgt agatatatgg aggaacacca gtggcgaagg 720
 cggctctctg gtctgtaact gacgtgagg ctcgaaagcg tggggagcaa acaggattag 780
 ataccttggg agtccacgcc gtaaacgatg agtgctaagt gttggagggt ttccgccctt 840
 cagtgtctga gcaaacgcat taagcactcc gcctggggag tacgaccgca aggttgaaac 900
 tcaaaggaat tgacgggggc ccgcacaagc ggtggagcat gtggtttaat tcgaagcaac 960
 gcgaagaacc ttaccaggtc ttgacatcct ttgaccactc tagagataga gctttccctt 1020
 cggggacaaa gtgacagggt gtgcatgggt gtcgtcagct cgtgtcgtga gatgttgggt 1080
 taagtcccgc aacgagcgca acccttattg ttagttgcca tcatttagtt gggcactcta 1140
 gcgagactgc cggtgacaaa ccggaggaag gtggggatga cgtcaaatca tcatgccctt 1200
 tatgacctgg gctacacacg tgctacaatg ggaagtacaa cgagtcgcta gaccgcgagg 1260
 tcatgcaaat ctcttaaagc ttctctcagt tcggattgca ggctgcaact cgctgcatg 1320
 aagccggaat cgctagtaat cgcggatcag cacgccgcgg tgaatacgtt cccgggcctt 1380
 gtacacaccg cccgtcacac cagcagaggt tgtaacaccc gaagtcgggt aggtaacctt 1440
 tttggagcc 1449

<210> 26

<211> 1548

<212> DNA

<213> Lactococcus lactis

<400> 26

tttatttgag agtttgatcc tggctcagga cgaacgctgg cggcgtgcct aatacatgca 60
 agttgagcgc tgaagggttg tacttgatcc gactggatga gcagcgaacg ggtgagtaac 120
 gcgtggggaa tctgcctttg agcgggggac aacatttgga aacgaatgct aataccgcat 180
 aaaaacttta aacacaagtt ttaagtttga aagatgcaat tgcatcactc aaagatgatc 240
 ccgcgttgta ttagctagtt ggtgaggtaa aggtcacca aggcgatgat acatagccga 300
 cctgagaggg tgatcgccca cattgggact gagacacggc ccaaactcct acgggaggga 360
 gcagtaggga atcttcggca atggacgaaa gtctgaccga gcaacgccgc gtgagtgaag 420
 aagggttttcg gatcgtaaaa ctctgttggg agagaagaac gttggtgaga gtggaaagct 480
 catcaagtga cggtaactac ccagaaaggg acggctaact acgtgccagc agccgcggta 540
 atacgtaggg cccgagcgtt gtccggattt attgggcgta aagcgagcgc aggtggttta 600
 ttaagtctgg tgtaaaaggc agtggtcaa ccattgtatg cattggaaac tggtagactt 660
 gagtgacagga gaggagagtg gaattccatg tgtagcgggt aaatgcgtag atatatggag 720
 gaacaccggt ggcgaaagcg gctctctggc ctgtaactga cactgagggt cgaaagcgtg 780
 gggagcaaac aggattagat accctggtag tccacgccgt aaacgatgag tgctagatgt 840
 agggagctat aagttctctg tatcgagct aacgcaataa gcactccgc tggggagtac 900
 gaccgcaagg ttgaaactca aaggaattga cgggggcccc cacaagcggg ggagcatgtg 960
 gtttaattcg aagcaacgcg aagaacctta ccaggctctg acatactcgt gctattccta 1020
 gagataggaa gttccttcgg gacacgggat acagggtgtg catggtgtc gtcagctcgt 1080
 gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc cctattgtta gttgcatca 1140
 ttaagttggg cactctaacg agactgccgg tgataaacgg gaggaagggt gggatgacgt 1200

caaatcatca tgcccttat gacctgggct acacacgtgc tacaatggat ggtacaacga 1260
 gtcgcgagac agtgatgttt agctaattctc ttaaaacccat tctcagttcg gattgtaggc 1320
 tgcaactcgc ctacatgaag tcggaatcgc tagtaatcgc ggatcagcac gccgcggtga 1380
 atacgttccc gggccttgta cacaccgccc gtcacaccac gggagttggg agtaccgaa 1440
 gtaggttgcc taaccgcaag gagggcgctt cctaaggtaa gaccgatgac tggggtgaag 1500
 tcgtaacaag gtagccgtat cggaaggtgc ggctggatca cctccttt 1548

<210> 27

<211> 1524

<212> DNA

<213> *Listeria monocytogenes*

<400> 27

gcctgcaggt cgacaacaga gtttgatcat ggctcaggac gaacgctggc ggcgtgccta 60
 atacatgcaa gtcgaacgaa cggaggaaga gcttgctctt ccaaagttag tggcggacgg 120
 gtgagtaaca cgtgggcaac ctgcctgtaa gttggggata actccgggaa accgggggcta 180
 ataccgaatg ataaagtgtg gcgcatgcca cgcttttgaa agatggtttc ggctatcgt 240
 tacagatggg cccgcggtgc attagctagt tggtagggta atggcctacc aaggcaacga 300
 tgcatagcgc acctgagagg gtgatcgccc aactgggac tgagacacgg cccagactcc 360
 tacgggaggc agcagtaggg aatcttccgc aatggacgaa agtctgacgg agcaacgccg 420
 cgtgtatgaa gaaggttttc ggatcgtaaa gtactgttgt tagagaagaa caaggataag 480
 agtaactgct tgtcccttga cggatcttaa ccagaaagcc acggctaact acgtgccagc 540
 agccgcggta atacgtaggt ggcaagcgtt gtccggattt attgggcgta aagcgcgcgc 600
 agggcgtctt ttaagtctga tgtgaaagcc cccggcttaa cgggggaggg tcattggaaa 660
 ctggaagact ggagtgcaga agaggagagt ggaattccac gtgtagcggg gaaatgcgta 720
 gatattgtgga ggaacaccag tggcgaaggc gactctctgg tctgtaactg acgctgaggc 780
 gcgaaagcgt ggggagcaaa caggattaga taccctggta gtccacgccg taaacgatga 840
 gtgctaagtg ttaggggggt tccgcccctt agtgctgcag ctaacgcatt aagcactctg 900
 cctggggagt acgaccgcaa gggtgaaact caaaggaatt gacgggggccc cgcacaagcg 960
 tggagcatgt ggttttaattc gaagcaacgc gaagaacctt accaggtctt gacatccttt 1020
 gaccactctg gagacagagc tttcccttcg ggacaaagt acaggtgggt catggttgtc 1080
 gtcagctcgt gtcgtgagat gttgggttaa gtcccgaac gagcgcaacc cttgatttta 1140
 gttgccagca tttagttggg cactctaaag tgactgccg tgcaagccga ggaaggtggg 1200
 gatgacgtca aatcatcatg ccccttatga cctgggctac acacgtgcta caatggatag 1260
 taaaaaggt cgcaagccg cgaggtggag ctaatcccat aaaactattc tcagttcgga 1320
 ttgtaggctg caactcgcct acatgaagcc ggaatcgcta gtaatcgtg atcagcatgc 1380
 cacggtgagt acgttcccg gccttgta caaccgccgt cacaccacga gagtttgtaa 1440
 caccgaagt cggtagggt acctttatgg agccagccgc cgaaggtggg acagataatt 1500
 ggggtgaagt cgtaacaagg taaa 1524

<210> 28

<211> 1555

<212> DNA

<213> *Staphylococcus aureus*

<400> 28

```

ttttatggag agtttgatcc tggctcagga tgaacgctgg cggcgtgcct aatacatgca 60
agtcgagcga acggacgaga agcttgcttc tctgatgtta gcggcggacg ggtgagtaac 120
acgtggataa cctacctata agactgggat aacttcggga aaccggagct aataccggat 180
aatattttga accgcatggt tcaaaagtga aagacggtct tgctgtcact tatagatgga 240
tccgcgctgc attagctagt tggtaaggta acggettacc aaggcaacga tacgtagccg 300
acctgagagg gtgatcggcc acactggaac tgagacacgg tccagactcc tacgggaggc 360
agcagtaggg aatcttcgcg aatggggcgaa agcctgacgg agcaacgccg cgtgagtgat 420
gaaggtcttc ggatcgtaaa actctgttat tagggaagaa catatgtgta agtaactgtg 480
cacatcttga cggtagctaa tcagaaagcc acggctaact acgtgccagc agccgcggta 540
atacgtagggt ggcaagcgtt atccggaatt attgggcgta aagcgcgcgt aggcgggttt 600
ttaagtctga tgtgaaagcc cacggctcaa ccgtaggagg tcattggaaa ctggaaaact 660
tgagtgcaga agaggaaagt ggaattccat gtgtagcggg gaaatgcgca gagatatgga 720
ggaacaccag tggcgaaggc gactttctgg tctgtaactg acgctgatgt gcgaaagcgt 780
ggggatcaaa caggattaga taccctggta gtccacgccg taaacgatga gtgctaagt 840
ttagggggtt tccgcccctt agtgctgcag ctaacgcatt aagcactccg cctggggagt 900
acgaccgcaa gggttgaaact caaaggaatt gacggggacc cgcacaagcg gtggagcatg 960
tggtttaatt cgaagcaacg cgaagaacct taccaaactt tgacatcctt tgacaactct 1020
agagatagag ccttcccctt cgggggacaa agtgacaggt ggtgcatggt tgctgcagc 1080
tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc aacccttaag cttagttgcc 1140
atcattaagt tgggcactct aagttgactg ccggtgacaa accggaggaa ggtggggatg 1200
acgtcaaadc atcatgcccc ttatgatttg ggctacacac gtgctacaat ggacaataca 1260
aagggcagcg aaaccgcgag gtcaagcaaa tcccataaag ttgttctcag ttcggattgt 1320
agtctgcaac tcgactacat gaagctggaa tcgctagtaa tcgtagatca gcatgctacg 1380
gtgaatacgt tcccgggtat tgtacacacc gcccgtcaca ccacgagagt ttgtaacacc 1440
cgaagccggt ggagtaacct ttaggagct agccgtcgaa ggtgggacaa atgattgggg 1500
tgaagtcgta acaaggtagc cgtatcgga ggtgcggctg gatcacctcc tttct 1555

```

<210> 29

<211> 1551

<212> DNA

<213> Streptococcus mutans

<400> 29

```

agagtttgat cctggctcag gacgaacgct ggcgcgctgc ctaatacatg caagtgggac 60
gcaaggaaac acactgtgct tgcacaccgt gttttcttga gtcgcgaacg ggtgagtaac 120
gcgtaggtaa cctgcctatt agcgggggat aactattgga aacgatagct aataccgcat 180
aatattaatt attgcatgat aattgattga aagatgcaag cgcactacta gtagatggac 240
ctgcgttgta ttagctagtt ggtaaggtaa gagcttacca aggcgacgat acatagccga 300
cctgagaggg tgatcggcca cactgggact gagacacggc ccagactcct acgggaggca 360
gcagtaggga atcttcggca atggacgaaa gtctgaccga gcaacgccgc gtgagtgaag 420
aaggttttcg gatcgtaaag ctctgttgta agtcaagaac gtgtgtgaga gtggaaagtt 480
cacacagtga cggtagctta ccagaaaggg acggctaact acgtgccagc agccgcggta 540
atacgtagggt cccgagcgtt gtccgatttt attgggcgta aaggagcgc aggcggtcag 600
gaaagtctgg agtaaaaggc tatggctcaa ccatagtgtg ctctggaaac tgtctgactt 660
gagtgcagaa ggggagagtg gaattccatg tgtagcgggtg aaatgcgtag atatatggag 720
gaacaccagt ggcgaaagcg gctctctggt ctgtcactga cgctgaggct cgaaagcgtg 780
ggtagcgaac aggattagat accctggtag tccacgccgt aaacgatgag tgctaggtgt 840

```

taggcccttt cgggggctta gtgccggagc taacgcaata agcactccgc ctgggggagta 900
cgaccgcaag gttgaaactc aaaggaattg acggggggccc gcacaagcgg tggagcatgt 960
ggtttaattc gaagcaacgc gaagaacctt accaggtctt gacatcccg tgctattctt 1020
agagatagga agttacttcg gtacatcggg gacaggtggt gcatgggtgt cgtcagctcg 1080
tgtcgtgaga tgttgggtta agtcccgcga cgagcgcaac ccttattgtt agttgccatc 1140
attaagttgg gcaactctagc gagactgccg gtaataaacc ggaggaaggt ggggatgacg 1200
tcaaatacatc atgcccctta tgacctgggc tacacacgtg ctacaatggt cggtagaacg 1260
agttgcgagc cggtagacggc aagctaattc ctgaaagccg atctcagttc ggattggagg 1320
ctgcaactcg cctccatgaa gtcggaatcg ctagtaatcg cggatcagca cggcgcggtg 1380
aatacgttcc cgggccttgt acacaccgcc cgtcacacca cgagagtttg taacaccgga 1440
agtcggtgag gtaacctttt aagggccaa cgcctaagg tgggatggat gattgggggtg 1500
aagtcgtaac aaggtagccg tatcggaagg tgcggctgga tcacctctt t 1551

<210> 30

<211> 1515

<212> DNA

<213> Streptococcus pneumoniae

<400> 30

atattgacct ggctcaggac gaacgctggc ggcgtgccta atacatgcaa gtagaacgct 60
gaaggaggag cttgcttctc tggatgagtt gcgaacgggt gagtaacgcg taggtaacct 120
gcctggtagc gggggataac tattggaaac gatagctaata accgcataag agtggatggt 180
gcatgacatt tgcttaaaag gtgcacttgc atcactacca gatggacctg cgttgattata 240
gctagtgtgt ggggtaacgg ctcaccaagg cgacgataca tagccgacct gagagggtga 300
tcggccacac tgggactgag acacgkcca gactcctacg ggaggcagca gtagggaatc 360
ttcggaatg gacggaagtc tgaccgagca acgcccgtg agtgaagaag gttttcggat 420
cgtaaagctc tgttgtaaga gaagaacgag tgtgagagtg gaaagtccac actgtgacgg 480
tatcttacca gaaaggagc gctaactacg tgccagcagc cgcggttaata cgtagggtccc 540
gagcgttgtc cggatttatt gggcgtaaa cgcgcgcagg cgggttagata agtctgaagt 600
taaaggctgt ggcttaacca tagtaggctt tggaaactgt ttaacttgag tgcaagaggg 660
gagagtggaa ttccatgtgt agcgggtgaaa tgcgtagata tatggaggaa caccggtggc 720
gaaagcggct ctctggcttg taactgacgc tgaggctcga aagcgtgggg agcaaacagg 780
attagatacc ctggtagtcc acgctgtaaa cgatgagtgat taggtgttag accctttccg 840
gggttttagt ccgtagctaa cgcattaagc actccgcctg gggagtacga ccgcaagggt 900
gaaactcaaa ggaattgacg gggggccgca caagcgggtg agcatgtggt ttaattcgaa 960
gcaacgcgaa gaaccttacc aggtcttgac atccctctga ccgctctaga gatagagttt 1020
tccttcggga cagaggtgac aggtggtgca tgggtgtcgt cagctcgtgt cgtgagatgt 1080
tgggttaagt cccgcaacga gcgcaacccc tattgttagt tgccatcatt cagttgggca 1140
ctctagcgag actgccggta ataaaccgga ggaaggtggg gatgacgtca aatcatcatg 1200
ccccttatga cctgggctac acacgtgcta caatggctgg tacaacgagt cgcaagccgg 1260
tgacggcaag ctaatctctt aaagccagtc tcagttcgga ttgtaggctg caactcgcct 1320
acatgaagtc ggaatcgcta gtaatcgcg atcagcacgc cgcgggtgaat acgttccccg 1380
gccttgtaga caccgcccgt cacaccacga gagtttgtaa caccggaagt cggtagaggta 1440
accgtaagga gccagccgcc taagggtggga tagatgattg ggggtgaagtc gtaacaagg 1500
cagccgtttg ggaga 1515

1009946001

<210> 31
 <211> 1335
 <212> DNA
 <213> Streptococcus pyogenes

<400> 31
 gaacgggtga gtaacgcgta ggtaacctac ctcatagcgg gggataacta ttggaaacga 60
 tagctaatac cgcataagag agactaacgc atgttagtaa tttaaaagg gcaattgctc 120
 cactatgaga tggacctgcg ttgtattagc tagttggtga ggtaaaggct caccaaggcg 180
 acgatacata gccgacctga gagggatgac ggccacactg ggactgagac acggcccaga 240
 ctccctacggg aggcagcagt agggaatctt cggcaatggg ggcaaccctg accgagcaac 300
 gccgcgtgag tgaagaagg tttcggatcg taaagctctg ttgttagaga agaattgatg 360
 tgggagtga aaatccacca agtgacggta actaaccaga aagggacggc taactacgtg 420
 ccagcagccg cggtaatac taggtcccga gcgttgccg gatttattgg gcgtaaagcg 480
 agcgcaggcg gttttttaag tctgaagtta aaggcattgg ctcaaccaat gtacgctttg 540
 gaaactggag aacttgagtg cagaagggga gagggaatt ccatgtgtag cggtgaaatg 600
 cgtagatata tggaggaaca ccgggtggcg aagcggctct ctggtctgta actgacgctg 660
 aggcctgaaa gcgtggggag caaacaggat tagataccct ggtagtccac gccgtaaacg 720
 atgagtgcta ggtgttaggc cctttccggg gcttagtgcc ggagctaacg cattaagcac 780
 tccgcctggg gagtacgacc gcaaggttga aactcaaagg aattgacggg ggcccgcaca 840
 agcgggtggag catgtggttt aattcgaagc aacgcgaaga accttaccag gtcttgacat 900
 cccgatgcc gctctagaga tagagtttta cttcggta tccgtgacag gtggtgcatg 960
 gttgtcgtca gctcgtgctg tgagatgttg ggttaagtcc cgcaacgagc gcaacccta 1020
 ttgttagttg ccatcattaa gttgggcaact ctacgagac tgccggtaat aaaccggagg 1080
 aagggtggga tgacgtcaaa tcatcatgcc ccttatgacc tgggctacac acgtgctaca 1140
 atggttggtg caacgagtcg caagccgggtg acggcaagct aatctcttaa agccaatctc 1200
 agttcggatt gtaggctgca actcgctac atgaagtcgg aatcgctagt aatcgcgat 1260
 cagcacgccg cgggtaatac gttcccgggc cttgtacaca ccgcccgtca caccacgaga 1320
 gtttgtaaca ccga 1335

<210> 32
 <211> 1465
 <212> DNA
 <213> Mycobacterium avium

<220>
 <221> modified_base
 <222> (298)..(881)
 <223> N = A, C, G or T/U

<400> 32
 gggcggtgc ttaacacatg caagtcgaac ggaaaggcct cttcggagg actcgagtgg 60
 cgaacgggtg agtaaacagt gggcaatcta ccctgcactt cgggataagc ctgggaaact 120
 gggcttaata ccgatatgga cctcaagacg catgtcttct ggtggaaagc ttttgcggtg 180
 tgggatgggc ccgcgcccta tcagcttggt ggtgggggtga cggcctacca aggcgacgac 240
 gggtagccgg cctgagaggg tgtccggcca cactgggact gagatacggc ccagactnct 300
 acgggaggga gcagtgggga atattgcaca atgggcgcaa gcctgatgca gcgacgccgc 360

```

gtgggggatg acggccttcg ggttgtaaac ctctttcacc atcgacgaag gtccggggtt 420
tctcggattg acggtaggtg gagaagaagc accggccaac tacgtgccag cagccgcggg 480
aatacgtagg gtgcgagcgt tgtccggaat tactgggctg aaagagctcg taggtgggtt 540
gtcgcgttgt tctgtaaatc tcacggctta actgtgagcg tgcgngcgat acgggcagac 600
tagagtactg caggggagac tggaattcct ggtgtagcgg tggaatgcgc agatatcagg 660
aggaacaccg gtggcgaagg cgggtctctg ggtagtaact gacgctgagg agcgaaagcg 720
tggggagcga acaggattag ataccctggt agtccacgnc gtaaacggtg ggtactaggt 780
gtgggtttcc ttccttgga tccgtgccgt agctaacgca ttaagtaccc cgcctggggg 840
gtacgngcgc aaggctaaaa ctcaaaggaa ttgacggggg nccgcacaag cggcggagca 900
tgtggattaa ttcgatgcaa cgcgaagaac cttacctggg tttgacatgc acaggacgcg 960
tctagagata ggcgttcctt tgtggcctgt gtgcaggtgg tgcattggctg tcgtcagctc 1020
gtgtcgtgag atgttggtt aagtcccgc aagagcgcaa cccttgtctc atgttgccag 1080
cgggtaaatgc cggggactcg tgagagactg ccgggtcaa ctcgaggaa ggtggggatg 1140
acgtcaagtc atcatgcccc ttatgtccag ggcttcacac atgctacaat gccgggtaca 1200
aagggtcgcg atgccgtaag gttaagcgaa tcctttttaa gccggtctca gttcggattg 1260
gggtctgcaa ctcgacccca tgaagtcgga gtcgctagta atcgagatc agcaacgctg 1320
cgggtgaatac gttcccgggc cttgtacaca ccgccgtca cgtcatgaaa gtcggtaaca 1380
cccgaagcca gtggcctaac ctttttggga gggagctgtc gaagggtgga tcggcgattg 1440
ggacgaagtc gtaacaaggt agccg 1465

```

<210> 33

<211> 1536

<212> DNA

<213> Mycobacterium tuberculosis

<400> 33

```

tttgtttgga gagtttgatc ctggctcagg acgaacgctg gcggcgtgct taacacatgc 60
aagtcgaacg gaaaggctc ttcggagata ctcgagtggc gaacgggtga gtaacacgtg 120
ggtgatctgc cctgcacttc gggataagcc tgggaaactg ggtctaatac cggataggac 180
cacgggatgc atgtcttgtg gtggaaagcg ctttagcggg gtgggatgag cccgcggcct 240
atcagcttgt tgggtgggtg acggcctacc aaggcgacga cgggtagccg gcctgagagg 300
gtgtccggcc aactgggac tgagatacgg ccagactcc tacgggaggc agcagtgggg 360
aatattgcac aatgggcgca agcctgatgc agcgacgccg cgtgggggat gacggccttc 420
gggttgtaaa cctctttcac catcgacgaa ggtccgggtt ctctcggatt gacggtaggt 480
ggagaagaag caccggccaa ctacgtgcca gcagccggg taatacgtag ggtgcgagcg 540
ttgtccgga ttactggcg taaagagctc gtaggtggtt tgtcgcgttg ttcgtgaaat 600
ctcacggctt aactgtgagc gtgcgggcga tacgggcaga ctagagtact gcaggggaga 660
ctggaattcc tgggttagcg gtggaatgcg cagatatcag gaggaacacc ggtggcgaag 720
gcgggtctct gggcagtaac tgacgctgag gagcgaaagc gtggggagcg aacaggatta 780
gataccctgg tagtcacgc cgtaaagcgt gggtagtagg tgtgggtttc cttccttggg 840
atccgtgccg tagctaacgc attaatgacc ccgcctgggg agtacggccg caaggctaaa 900
actcaaagga attgacgggg gcccgcaaaa gcggcgagc atgtggatta attcgatgca 960
acgcaagaa cttacctg gtttgacatg cacaggacgc gtctagagat aggcgttccc 1020
ttgtggcctg tgtgcaggtg gtgcatggct gtcgtcagct cgtgtcgtga gatgttgggt 1080
taagtccgc aacgagcgca acccttgtct catgttgcca gcacgtaatg gtggggactc 1140
gtgagagact gccgggtca actcggagga aggtggggat gacgtcaagt catcatgcc 1200
cttatgtcca gggcttcaca catgctacaa tggccgggtac aaagggtgc gatgccgcga 1260

```

ggttaagcga	atccttaaaa	gccggtctca	gttcggatcg	gggtctgcaa	ctcgacccccg	1320
tgaagtcgga	gtcgc tagta	atcgcagatc	agcaacgctg	cgg tgaatac	gttccccgggc	1380
cttgtaacaca	ccgcccgtca	cg tcatgaaa	gtcggtaaca	cccgaagcca	gtggcctaac	1440
cctcggggagg	gagctgtcga	aggtgggatc	ggcgattggg	acgaagtcgt	aacaaggtag	1500
ccgtaccgga	aggtgcggct	ggatcacctc	ctttct			1536

```
<210> 34
<211> 1536
<212> DNA
<213> Escherichia coli
```

tttgtttgga	gagtttgatc	ctgggtcagg	acgaacgctg	gcggcgtgct	taacacatgc	60
aagtgcgaacg	gaaaggtctc	ttcggagata	ctcgagtggc	gaacgggtga	gtaacacgtg	120
ggtgatctgc	cctgcacttc	gggataagcc	tgggaaactg	ggtctaatac	cggataggac	180
cacgggatgc	atgtcttggtg	gtggaaagcg	ctttagcgg	gtgggatgag	cccgcggcct	240
atcagcttgt	tgtgtgggtg	acggcctacc	aaggcgacga	cgggtagccg	gcctgagagg	300
gtgtccggcc	acactgggac	tgagatacgg	cccagactcc	tacgggaggc	agcagtgggg	360
aatattgcac	aatgggcgca	agcctgatgc	agcgacgccg	cgtgggggat	gacggccttc	420
gggttgtaaa	cctctttcac	catcgacgaa	ggtccgggtt	ctctcggatt	gacggtaggt	480
ggagaagaag	caccggccaa	ctacgtgcca	gcagccgcgg	taatacgtag	ggtgcgagcg	540
ttgtccggaa	ttactgggcg	taaagagctc	gtagggtggt	tgtcgcgttg	ttcgtgaaat	600
ctcacggctt	aactgtgagc	gtgcgggcga	tacgggcaga	ctagagtact	gcaggggaga	660
ctggaattcc	tgggtgtagc	gtggaatgcg	cagatatcag	gaggaacacc	ggtggcgaa	720
gcgggtctct	gggcagtaac	tgacgtgag	gagcgaaagc	gtggggagcg	aacaggatta	780
gataccctgg	tagtccacgc	cgtaaacggt	gggtactagg	tgtgggtttc	cttccttggg	840
atccgtgccg	tagctaacgc	attaagtacc	ccgcctgggg	agtacggccg	caaggctaaa	900
actcaaagga	attgacgggg	gcccgcacaa	gcggcggagc	atgtggatta	attcgatgca	960
acgcgaagaa	ccttacctgg	gtttgacatg	cacaggacgc	gtctagagat	aggcgttccc	1020
ttgtggcctg	tgtgcaggtg	gtgcatggct	gtcgtcagct	cgtgtcgtga	gatgttgggt	1080
taagtcccg	aacgagcgca	acccttgtct	catgttgcca	gcacgtaatg	gtggggactc	1140
gtgagagact	gccgggggtca	actcggagga	aggtggggat	gacgtcaagt	catcatgccc	1200
cttatgtcca	gggcttcaca	catgctacaa	tggccggtac	aaagggctgc	gatgccgcga	1260
ggttaagcga	atccttaaaa	gccggtctca	gttcggatcg	gggtctgcaa	ctcgacccc	1320
tgaagtcgga	gtcgctagta	atcgcagatc	agcaacgctg	cgggtgaatac	gttcccgggc	1380
cttgtagaca	ccgcccgtca	cgatcatgaa	gtcggtaaca	cccgaagcca	gtggcctaac	1440
cctcgggagg	gagctgtcga	aggtgggatc	ggcgattggg	acgaagtcgt	aacaaggtag	1500
ccgtaccgga	aggtgcggt	ggatcacctc	ctttct			1536

<222> (11)..(12)

<223> N = A, C, G or T/U

<400> 35

agagtttgat nntggctcag attgaacgct ggcggcaggc ctaacacatg caagtcgagc 60
ggtagcacag agagcttgct ctcgggtgac gagcggcgga cgggtgagta atgtctggga 120
aactgcctga tggaggggga taactactgg aaacggtagc taataccgca taacgtcgca 180
agaccaaagt gggggacctt cgggcctcat gccatcagat gtgcccagat gggattagct 240
agtaggtggg gtaacggctc acctaggcga cgatccctag ctggtctgag aggatgacca 300
gccacactgg aactgagaca cggtcagac tcctacggga ggcagcagtg gggaatattg 360
cacaatgggc gcaagcctga tgcagccatg ccgcgtgtgt gaagaaggcc ttcgggttgt 420
aaagcacttt cagcggggag gaaggcgatg aggttaataa cctcatcgat tgacgttacc 480
ctgcagaaga agcaccggct aactccgtgc cagcagccgc ggtaatacgg aggggtgcaag 540
cgtaaatcgg aattactggg cgtaaagcgc acgcaggcgg tctgtcaagt cggatgtgaa 600
atccccgggc tcaacctggg aactgcattc gaaactggca ggctagagtc ttgtagaggg 660
gggtagaatt ccagggtgtag cggtgaaatg cgtagagatc tggaggaata ccgggtggcga 720
aggcggcccc ctggacaaaag actgacgctc aggtgcgaaa gcgtggggag caaacaggat 780
tagataccct ggtagtccac gccgtaaacg atgtcgattt ggaggttgtg cccttgaggc 840
gtggcttccg gagctaacgc gttaaatcga ccgcctgggg agtacggccg caagggtaaa 900
actcaaatga attgacgggg gccgcacaa gcggtggagc atgtggttta attcgatgca 960
acgcgaagaa ccttacctgg tcttgacatc cacagaactt tccagagatg gattggtgcc 1020
ttcgggaact gtgagacagg tgctgcatgg ctgtcgtcag ctctgttgtt gaaatgttgg 1080
gttaagtccc gcaacgagcg caacccttat cctttgttgc cagcggttag gccgggaact 1140
caaaggagac tgccagtgat aaactggagg aagggtgggga tgacgtcaag tcatcatggc 1200
ccttacgacc agggctacac acgtgctaca atggcatata caaagagaag cgacctcgcg 1260
agagcaagcg gacctcataa agtatgtcgt agtccggatt ggagtcctgca actcgactcc 1320
atgaagtcgg aatcgctagt aatcgtagat cagaatgcta cggatgaatac gttccggggc 1380
cttgtacaca ccgccgtca caccatggga gtgggttgca aaagaagtag gtagcttaac 1440
cttcgggagg gcgcttacca ctttgtgatt catgactggg gtgaagtcgt aacaaggtaa 1500
ccgtagggga acctgcggtt ggatcacctc cttt 1534

<210> 36

<211> 1485

<212> DNA

<213> ACTINOBACCILUS ACTIN

<220>

<221> modified_base

<222> (208)..(1476)

<223> N = A, C, G or T/U

<400> 36

attgaagagt ttgatcatgg ctcagattga acgctggcgg caggcttaac acatgcaagt 60
cggacggtag caggagaaag cttgctttct tgctgacgag tggcggacgg gtgagtaatg 120
cttgggaatc tgtcttatgg agggggataa cgacgggaaa ctgtcgctaa taccgcgtag 180
agtcgggaga cgaaagtgcg ggactttntg gccgcatgcc atgagatgag cccaagtgtg 240
attaggtagt tgggtgggta aaggcctacc aagccgacga tcgctagctg gtctgagagg 300

atggccagcc	acaccgggac	tgagacacgg	ccngactcc	tacgggaggc	agcagtgggg	360
aatattgcgc	aatgggggca	accctgacgc	agccatgccg	cgtgaatgaa	gaaggccttc	420
gggttgtaaa	gttctttcgg	tattgaggaa	ggttgggtgtg	ttaatagcat	gccaaattga	480
cgttaaatac	agaagaagca	ccggctaact	ccgtgccagc	agccgcggta	atacgggggg	540
tgcgagcggt	aatcggaata	actgggcgta	aagggcacgt	aggcggacct	ttaagtgagg	600
tgtgaaatcc	ccgggcctta	cctgggnatt	gcatttcata	ctgggggtct	ggagtacttt	660
ngggagggnt	agaattccac	gtgtagcgg	gaaatgcgta	gagatgtgga	ggaataccga	720
aggcgaaggc	agcccccttg	ggatgtactg	acgctgatgt	gcgaaagcgt	ggggagcaaa	780
caggattaga	taccctggta	gtccacgctg	taaacgggtg	cgatttgggg	attgggggtt	840
agccctggtg	cccgaagcta	acgtgataaa	tcgaccgcct	ggggagtacg	gccgcaagg	900
taaaactcaa	atgaattgac	ggggggccgc	acaagcgggtg	gagcatgtgg	tttaattcga	960
tgcaacgcga	agaaccttac	ctactcttga	catccgaaga	agaactcaga	gatggggttg	1020
tgcttaggg	agctttgaga	cagggtgctgc	atggcngtcg	tcagctcgtg	ttgtgaaatg	1080
ttgggttaag	tcccgcaacg	agcgcaaccc	ttatcctttg	tggccagcga	cgtggtcggg	1140
aactcaaagg	agactgccgg	tgataaaccg	gaggaagggtg	gggatgacgt	caagtcatca	1200
tggcccttac	gagtagggct	acacacgtgc	tacaatggcg	tatacagagg	gtaaccaacc	1260
agcgatgggg	agtgaatctc	agaaagtgcg	tctaagttcg	gattggagtc	tgcaactcga	1320
ctccatgaag	tcggaatcgc	tagtaatcgc	gaatcagaat	gttgcggtga	atacgttccc	1380
gggccttgta	cacaccgccc	gtcacaccat	gggagtgggt	tgtaccagaa	gtggatagct	1440
gaaccgagag	ggtggcgttt	accacggtat	gattcangac	tgggg		1485

<210> 37

<212> DNA

$\langle 220 \rangle$

<222> (1) .. (1387)

<400> 37

<212> DNA

<213> Bordetella parapertussis

<400> 39

attgaacgct ggcgggatgc tttacacatg caagtcggac ggcagcacgg gcttcggcct 60
ggtggcgagt ggcgaacggg tgagtaatgt atcggaacgt gccagtagc gggggataac 120
tacgcgaaag cgtggctaata accgcatacg ccctacgggg gaaagcggg gactttcggg 180
cctcgcaacta ttggagcggc cgatatcgga ttagctagtt ggtggggtaa cggcctacca 240
aggcgacgat ccgtagctgg tttgagagga cgaccagcca cactgggact gagacacggc 300
ccagactcct acgggaggca gcagtgggga attttggaac atgggggcaa ccctgatcca 360
gccatcccg cgtgtcgatg aaggccttcg ggttgtaaag cacttttggc aggaaagaaa 420
cggcacgggc taatatcctg tgcaactgac ggtacctgca gaataagcac cggctaacta 480
cgtgccagca gccgcggtaa tacgtagggt gcaagcgtaa atcggaatta ctgggcgtaa 540
agcgtgcgca ggcgggttcg aaagaaagat gtgaaatccc agggcttaac cttggaactg 600
catttttaac taccgggcta gagtgtgtca gagggaggtg gaattccgcg tgtagcagtg 660
aaatgcgtag atatgcggag gaacaccgat ggcgaaggca gcctcctggg ataactga 720
cgctcatgca cgaaagcgtg gggagcaaac aggattagat accctggtag tccacgccct 780
aaacgatgtc aactagctgt tggggccttc gggccttggt agcgcagcta acgctgaag 840
ttgaccgcct ggggagtacg gtcgcaagat taaaactcaa aggaattgac ggggacccgc 900
acaagcggtg gatgatgttg attaatcga tgcaacgcga aaaaccttac ctacccttga 960
catgtctgga atcccgaaga gatttgaggag tgctcgcaag agaaccggaa cacaggtgct 1020
gcatggctgt cgtcagctcg tgtcgtgaga tgttggtta agtcccgcaa cgagcgcaac 1080
ccttgtcatt agttgctacg aaagggcact ctaatgagac tgccgggttac aaaccggagg 1140
aagggtggga tgacgtcaag tcctcatggc ccttatgggt agggcttcac acgtcataca 1200
atggtcggga cagagggctc ccaacccgcg agggggagcc aatcccagaa acccgatcgt 1260
agtccggatc gcagtctgca actcgactgc gtgaagtcgg aatcgctagt aatcgcggat 1320
cagcatgtcg cggatgaatac gttcccggtt cttgtacaca ccgcccgtca caccatggga 1380
gtgggtttta ccagaagtag ttagcctaac cgcaaggggg gggcgattac cacggtagga 1440
ttcatgactg gggatgaagtc gtaacaaggt agccgtatcg gaagg 1485

<210> 40

<211> 1464

<212> DNA

<213> Bordetella pertussis

<220>

<221> modified_base

<222> (87)..(1391)

<223> N = A, C, G or T/U

<400> 40

aactgaagag tttgatcctg gctcagattg aacgctggcg ggatgcttta cacatgcaag 60
tcggacggca gcacgggctt cggcctnctg gcgagtggcg aacgggtgag taatgtatcg 120
gaacgtgccc agtagcgggg gataactacg cgaaagcgta gctaataaccg catacgccct 180
acgggggaaa gcgggggacc ttcgggcctc gcactattgg agcggccgat atcggttagg 240
ctncttgggt gggtaacggc ctaccaaggc gacgatccgt agctggtttg agaggacgac 300
cagccacact gggactgaga cacggccccg nctcctacgg gaggcagcag tggggaattt 360

tggacaatgg gggcaaccct gatccagcca tcccgcgtgt gcgatgaagg ccttcggggt 420
gtaaagcact tttggcagga aagaaacggc acgggcta atcctgtgca actgacggta 480
cctgcagaat aagcaccggc taactacgtg ccagcagccg cggtaatacg taggggtgca 540
gcgttaatcg gaattactgg gcgtaaagcg tgcgcaggcg gttcggaaag aaagatgtga 600
aatcccaggg cttaaccttg gaactgcatt tttaactacc gggctagagt gtgtcagagg 660
gaggtggaat tccgcgtgta gcagtgaat gcgtagatat gcggaggaac accgatggcg 720
aaggcagcct cctgggataa cactgacgct catgcacgaa agtgtgggga gcaaacagga 780
ttagataccc tggtagtcca cgccctaaac gatgtcaact agctgttggg gccttcgggc 840
cttggtagcg cagctaacgc gtgaagtga ccgcctgggg agtacggtcg caagattaaa 900
actcaaagga attgacggg acccgcaaa gcggtggatg atgtggatta attcgatgca 960
acgcgaaaaa ccttacctac ccttgacatg tctggaatcc cgaagagatt tgggagtgc 1020
cgcaagagaa ccggaacaca ggtgctgcat ggctgctgct agctcgtgct gtgagatgtt 1080
gggttaagtc ccgcaacgag cgcaaccctt gtcattagt gctacgaaag ggcactctaa 1140
tgagactgcc ggtgacaaac cggaggaagg tggggatgac gtgaagtct catggccctt 1200
atgggtaggg cttcacacgt catacaatgg tccggacaga gggttgncaa cccgcgaggg 1260
ggagccaatc ccagaaaccc ggtcgtngtc cggatcgag tctgcaactc gactgcgtga 1320
agtcggaatc gctagtaatc gcggatcagc atgtcgcggt gaatacgttc ccgggtcttg 1380
tacacaccgc ncgtcacacc atgggagtgg gttttaccag aagtagttag cctaaccgca 1440
aggggggcga ttaccacggt agga 1464

<210> 41

<211> 1535

<212> DNA

<213> Burkholderia cepacia

<400> 41

taaactgaag agtttgatcc tggctcagat tgaacgctgg cggcatgctt aacacatgca 60
agtcgaacgg cagcacgggt gcttgacact ggtggcgagt ggcaacggg tgagtaatac 120
atcggaacat gtctgtagt ggggatagc ccggcgaaag ccgattaat accgcatacg 180
atctacggat gaaagcgggg gaccttcggg cctcgcgcta tagggttggc gatggctgat 240
tagctagtgt gtggggtaaa ggccctacca ggcgacgatc agtagctggt ctgagaggac 300
gaccagccac actgggactg agacacggcc cagactccta cgggaggcag cagtggggaa 360
ttttggacaa tgggcgaaag cctgatccag caatgccgcg tgtgtgaaga aggccttcgg 420
gttgtaaaag acttttgtcc ggaaagaaat ccctggctct aatacagtcg ggggatgacg 480
gtaccggaag aataagcacc ggctaactac gtgccagcag ccgcggtaat acgtaggggtg 540
caagcgtaaa tcggaattac tgggcgtaaa gcgtgcgcag gcggtttgct aagaccgatg 600
tgaaatcccc gggctcaacc tgggaactgc attggtgact ggcaggctag agtatggcag 660
aggggggtag aattccacgt gtagcagtga aatgcgtaga gatgtggagg aataccgatg 720
gcgaaggcag ccccttgggc caatactgac gctcatgcac gaaagcgtgg ggagcaaaca 780
ggattagata ccctggtagt ccacgcccta aacgatgtca actagttgtt ggggattcat 840
ttccttagta acgtagctaa cgcgtgaagt tgaccgcctg gggagtacgg tcgcaagatt 900
aaaactcaaa ggaattgacg gggaccgcga caagcggtgg atgatgtgga ttaattcgat 960
gcaacgcgaa aaaccttacc tacccttgac atggctcgaa tcctgctgag aggtgggagt 1020
gctcgaaaga gaaccggcgc acaggtgctg catggctgct gtcagctcgt gtcgtgagat 1080
gttgggttaa gtcccgaac gagcgcaacc cttgtcctta gttgctacgc aagagcactc 1140
taaggagact gccggtgaca aaccggagga aggtggggat gacgtcaagt cctcatggcc 1200
cttatgggta gggcttcaca cgcatacaa tggctcggaac agagggttgc caaccgcgca 1260

cggcagcacg ggcttcggcc tgggtggcgag tggcgaacgg gtgagttata catcggagca 180
 tgtcctgtag tgggggatag cccggcgaaa gccgaattaa taccgcatac gatctgagga 240
 tgaaagcggg ggaccttcgg gcctcgcgct ataggggttg ccatggctg attagctagt 300
 tgggtgggga aaggcctacc aaggcgacga tcagtagctg gtctgagagg acgaccagcc 360
 acactgggac tgagacacgg ccagactcc tacgggaggc agcagtgagg aattttggac 420
 aatgggacga agcctgatcc agcaatgccg cgtgtgtgaa gaaggccttc ggggtgtaaa 480
 gcacttttgt ccggaagaa atcattctgg ctaatacccg gagtggatga cggtagcgga 540
 agaataagca ccggctaact acgtgccagc agccgcggta atacgtaggg tgcgagcggt 600
 aatcgggatt actgggcgta aagcgtgcgc aggcgggttg ctaagaccga tgtgaaatcc 660
 ccgggctcaa cctgggaact gcattggtga ctggcaggct agagtatggc agaggggggt 720
 agaattccac gtgtagcagt gaaatgcgta gagatgtgga ggaataccga tggcgaaggc 780
 agccccctgg gccaatactg acgctcatgc acgaaagcgt ggggagaaaa caggattaga 840
 taccctggta gtccacgccc taaacgatgt caactagtgt ttggggattc atttccttag 900
 taacgtagct aacgcgcgaa gttgaccgcc tggggagtag ggtcgcaaga ttaaaactca 960
 aaggaattga cggggacccg cacaagcggg ggatgatgtg gattaattcg atgcaacgcg 1020
 aaaaacctta cctacccttg acatggctcg aagcccgatg agagttgggc gtgctcgaaa 1080
 gagaaccggc gcacaggtgc tgcattggct tgcctagctc gtgtcgtgag atgttgggtt 1140
 aagtcccgca acgagcgcaa cccttgctct tagttgctac gcaagagcac tctaaggaga 1200
 ctgccggtga caaacgggag gaaggtgggg atgacgtcaa gtcctcatgg cccttatggg 1260
 tagggcttca cagtcatac aatggtcgga acagagggtc gccaacccgc gagggggagc 1320
 caatcccaga aaaccgatcg tagtccggat tgcactctgc aactcgagt catgaagctg 1380
 gaatcgctag taatcgcgga tcagcatgcc gcggtgaata cgttcccggt tctgtacac 1440
 accgcccgtc acaccatggg agtgggtttt accagaagtg gctagtctaa ccgcaaggag 1500
 gacggtcacc acggtaggat tcatgactgg ggtgaagtcg taacaaggta gccgtagaa 1560
 ccgaattcca gcacactggc ggcggttact actggatccg agctcgtacc 1610

<210> 44

<211> 1544

<212> DNA

<213> *Neisseria gonorrhoeae*

<400> 44

tgaacataag agtttgatcc tggctcagat tgaacgctgg cggcatgctt tacacatgca 60
 agtcggacgg cagcacaggg aagcttgctt ctcggtggc gagtggcgaa cgggtgagta 120
 acatatcgga acgtaccggg tagcggggga taactgatcg aaagatcagc taataccgca 180
 tacgtcttga gagggaaagc aggggacctt cgggccttgc gctatccgag cggccgatat 240
 ctgattagct ggttggcggg gtaaaggccc accaaggcga cgatcagtag cgggtctgag 300
 aggatgatcc gccacactgg gactgagaca cggcccagac tcctacggga ggcagcagtg 360
 gggaattttg gacaatgggc gcaagcctga tccagccatg ccgctgtct gaagaaggcc 420
 ttcgggttgt aaaggacttt tgtcaggga gaaaaggctg ttgccaatat cggcggccga 480
 tgacgggtacc tgaagaataa gcaccggcta actacgtgcc agcagccgcg gtaatacgta 540
 ggggtcgagc gtaaatcgga attactgggc gtaaagcggg cgacagcgg tacttaagca 600
 ggatgtgaaa tccccgggct caaccggga actgcgttct gaactgggtg actcgagtgt 660
 gtcagaggga ggtggaattc cacgtgtagc agtgaaatgc gtagagatgt ggaggaatac 720
 cgatggcgaa ggcagcctcc tgggataaca ctgacgttca tgtccgaaag cgtgggtagc 780
 aaacaggatt agataccctg gtagtccacg ccctaaacga tgtcaattag ctgttgggca 840
 acttgattgc ttggtagcgt agctaacgcg tgaaattgac cgcctgggga gtacggtcgc 900

```

aagattaaaa ctcaaaggaa ttgacgggga cccgcacaag cgggtggatga tgtggattaa 960
ttc gatgcaa cgcgaagaac cttacctggt tttgacatgt gcggaatcct ccggagacgg 1020
aggagtgcct tcgggagccg taacacaggt gctgcatggc tgtcgtcagc tcgtgtcgtg 1080
agatgttggg ttaagtcccg caacgagcgc aacccttgtc attagttgcc atcattcggg 1140
tgggcactct aatgagactg ccggtgacaa gccggaggaa ggtggggatg acgtcaagtc 1200
ctcatggccc ttatgaccag ggcttcacac gtcatacaat ggtcgggtaca gagggtagcc 1260
aagccgcgag gcggagccaa tctcacaaaa ccgatcgtag tccggattgc actctgcaac 1320
tcgagtgc at gaagtcggaa tcgctagtaa tcgcagggtca gcatactgcg gtgaatacgt 1380
tcccgggtct tgtacacacc gcccgtcaca ccatgggagt gggggatacc agaagtaggt 1440
agggtaaccg caaggagtcc gcttaccacg gtatgcttca tgactggggg gaagtcgtaa 1500
caaggtagcc gtaggggaac ctgcggctgg atcacctcct ttct 1544

```

<210> 45

<211> 1544

<212> DNA

<213> Neisseria meningitidis

<400> 45

```

tgaacataag agtttgatcc tggctcagat tgaacgctgg cggcatgctt tacacatgca 60
agtcggacgg cagcacagag aagcttgctt ctcgggtggc gagtggcgaa cgggtgagta 120
acatatcgga acgtaccgag tagtggggga taactgatcg aaagatcagc taataccgca 180
tacgtcttga gagagaaagc aggggacctt cgggccttgc gctattcgag cggccgatat 240
ctgattagct agttggtggg gtaaaggcct accaaggcga cgatcagtag cgggtctgag 300
aggatgatcc gccacactgg gactgagaca cggcccagac tcctacggga ggcagcagtg 360
gggaattttg gacaatgggc gcaagcctga tccagccatg ccgcgtgtct gaagaaggcc 420
ttcgggttgt aaaggacttt tgtcagggaa gaaaaggctg ttgctaatat cagcggctga 480
tgacggtacc tgaagaataa gcaccggcta actacgtgcc agcagccgcg gtaatacgt 540
gggtgcgagc gttaatcgga attactgggc gtaaagcggg cgcagacggt tacttaagca 600
ggatgtgaaa tccccgggct caaccggga actgcgttct gaactgggtg actcgagtgt 660
gtcagagggg gtagaattc cacgtgtagc agtgaaatgc gtagagatgt ggaggaatac 720
cgatggcgaa ggcagcctcc tgggacaaca ctgacgttca tgcccgaag cgtgggtagc 780
aaacaggatt agataccctg gtagtccacg ccctaaacga tgtcaattag ctgttgggca 840
acctgattgc ttggtagcgt agctaacgcg tgaaattgac cgcctgggga gtacggtcgc 900
aagattaaaa ctcaaaggaa ttgacgggga cccgcacaag cgggtggatga tgtggattaa 960
ttc gatgcaa cgcgaagaac cttacctggt cttgacatgt acggaatcct ccggagacgg 1020
aggagtgcct tcgggagccg taacacaggt gctgcatggc tgtcgtcagc tcgtgtcgtg 1080
agatgttggg ttaagtcccg caacgagcgc aacccttgtc attagttgcc atcattcagt 1140
tgggcactct aatgagactg ccggtgacaa gccggaggaa ggtggggatg acgtcaagtc 1200
ctcatggccc ttatgaccag ggcttcacac gtcatacaat ggtcgggtaca gagggtagcc 1260
aagccgcgag gcggagccaa tctcacaaaa ccgatcgtag tccggattgc actctgcaac 1320
tcgagtgc at gaagtcggaa tcgctagtaa tcgcagggtca gcatactgcg gtgaatacgt 1380
tcccgggtct tgtacacacc gcccgtcaca ccatgggagt gggggatacc agaagtaggt 1440
aggataacca caaggagtcc gcttaccacg gtatgcttca tgactggggg gaagtcgtaa 1500
caaggtagcc gtaggggaac ctgcggctgg atcacctcct ttct 1544

```

<210> 46

<211> 1537
<212> DNA
<213> *Pseudomonas aeruginosa*

<400> 46
gaactgaaga gtttgatcat ggctcagatt gaacgctggc agcagggggc ttcaacacat 60
gcaagtcgag cttatgaagg gagcttgcc tggattcagc ggcgacggg tgagtaatgc 120
ctaggaatct gcctggtagt gggggataac gtccggaaac ggccgctaac accgcatacg 180
tcctgagggg gaaagtcggg gatcttcgga cctcacgcta tcagatgagc ctaggtcggg 240
ttagctagtt ggtggggtaa aggcctacca aggcgacgat ccgtaactgg tctgagagga 300
tgatcagtca cactggaact gagacacggt ccagactcct acgggaggca gcagtgggga 360
atattggaca atgggcgcaa gcctgatcca gccatgccgc gtgtgtgaag aaggtcttcg 420
gattgtaaag cactttaagt tgggaggaag ggcagtaagt taataccttg ctgtttgacg 480
ttaccaacag aataagcacc ggctaacttc gtgccagcag ccgcggtaat acgaagggtg 540
caagcggttaa tcggaattac tgggcgtaaa gcgcgcgtaa gtgggttcagc aagcttgatg 600
tgaaatcccc gggctcaacc tgggaactgc atccaaaagc tactgagcta gactacggta 660
gaggtggtag aatttcctgt gtagcggtag aatgcgtaga tataggaagg aacaccagtg 720
gcgaaggcga ccacctggac tgtactgaca ctgaggtgcg aaagcggtgg gagcaaacag 780
gattagatac cctggtagtc cacgccgtaa acgatgtcga ctagccgttg ggatccttga 840
gatcttagtg gcgcacgtaa cgcgataagt cgaccgcctg gggagtacgg ccgcaagggt 900
aaaactcaaa tgaattgacg ggggcccgc caagcggtgg agcatgtggt ttaattcgaa 960
gcaacgcgaa gaaccttacc tggccttgac atgctgagaa ctttccagag atggattggg 1020
gccttcggga acagagacac aggtgctgca tggctgtcgt cagctcgtgt cgtgagatgt 1080
tgggttaagt cccgtaacga gcgcaaccct tgctcttagt taccagcacc tcgggtgggc 1140
actctaagga gactgccggt gacaaaccgg aggaagggtg ggatgacgtc aagtcatcat 1200
ggcccttacg gccagggcta cacacgtgct acaatggctg gtacaaaggg ttgccaagcc 1260
gcgagtggga gctaattcca taaaaccgat cgtagtccgg atcgcagtct gcaactcgac 1320
tgcgtgaagt cggaatcgct agtaatcgtg aatcagaatg tcacggtgaa tacgtccccg 1380
ggccttgtag acaccgcccg tcacaccatg ggagtgggtt gctccagaag tagctagtct 1440
aaccgcaagg gggacggtta ccacggagtg attcatgact ggggtgaagt cgtaacaagg 1500
tagccgtagg ggaacctgcg gctggatcac ctcctta 1537

<210> 47
<211> 1467
<212> DNA
<213> *Vibrio cholerae*

<220>
<221> modified_base
<222> (928)..(1464)
<223> N = A, C, G or T/U

<400> 47
attgaagagt ttgatcctgg ctcagattga acgctggcgg caggcctaac acatgcaagt 60
cgagcggcag cacagaggaa cttgttcctt ggggtggcgg cggcggacgg gtgagtaatg 120
cctgggaaat tgcccgttag agggggataa ccattggaaa cgatggctaa taccgcataa 180
cctcgcaaga gcaaagcagg ggaccttcgg gccttgccgt accggatatg cccagggtgg 240


```

attagctagt tggtaggta agggctcacc aaggcgacga tccctagctg gtctgagagg 300
atgatcagcc aacttggaac tgagacacgg tccagactcc tacgggaggc agcagtgggg 360
aatattgcac aatgggcgca agcctgatgc agccatgccg cgtgtatgaa gaaggccttc 420
gggttgtaaa gtactttcag tagggaggaa ggtggttaag ttaatacctt aatcatttga 480
cgttacctac agaagaagca ccggctaact ccgtgccagc agccgcggta atacggaggg 540
tgcaagcgtt aatcggaatt actgggcgta aagcgcatgc aggtggttg ttaagtcaga 600
tgtgaaagcc ctgggctcaa cctaggaatc gcatttgaaa ctgacaagct agagtactgt 660
agaggggggt agaatttcag gtgtagcggg gaaatgcgta gagatctgaa ggaataccgg 720
tggcgaaggc ggccccctgg acagatactg acactcagat gcgaaagcgt ggggagcaaa 780
caggattaga taccctggta gtccacgccg taaacgatgt ctacttgag gttgtgccct 840
agagtcgtgg ctttcggagc taacgcgtta agtagaccgc ctggggagta cggtcgcaag 900
attaaaactc aaatgaattg acgggggncc gcacaagcgg tggagcatgt ggtttaattc 960
ganncaacgc gaagaacctt acctactctt gacatccaga gaatctagcg gagacgctgg 1020
agtgccttcg ggagctctga gacaggtgct gcatggctgt cgtcagctcg tgttgtaaa 1080
tgttgggtta agtcccgaac cgagcgcaac cttatcctt gtttgccagc acgtaatggt 1140
gggaactcca gggagactgc cggtgataaa ccggaggaaag gtggggacga cgtcaagtca 1200
tcatggccct tacgagtagg gctacacacg tgctacaatg gcgtatacag agggcagcga 1260
taccgcgagg tggagcgaat ctacaaaagt acgtcgtagt ccggattgga gtctgcaact 1320
cgactccatg aagtcggaat cgctagtaat cgcaaatcag aatgttgcg tgaatacgtt 1380
cccgggcctt gtacacaccg cccgtcacac catgggagtg ggctgcaaaa gaagcangta 1440
gtttaacctt cgggaggacg cttncce 1467

```

<210> 48

<211> 1485

<212> DNA

<213> *Yersinia enterocolitica*

<220>

<221> modified_base

<222> (1)..(1484)

<223> N = A, C, G or T/U

<400> 48

```

naattgaaga gtttgatcat ggctcagatn gaacgctggc ggcaggccta acacatgcaa 60
gtcgagcggc agcgggaagn agtttactac tttcngggcg agcggcgncac gggtagtaaa 120
tgtctgggaa actgcctgat ggagggggat aactactgga aacggtagct aataccgcat 180
aacgtcttcg gaccaaagtg ggggacctta gggcctcacg ccatcngatg tgcccagatg 240
ggattagcta gtaggtgggg taatggctca cctaggcgac gatccctagc tggctctgaga 300
ggatgaccag ccacactgga actgagacac ggtccagact cctacgggag gcagcagtgg 360
ggaatattgc acaatgggcg caagcctgat gcagccatgc cgcgtgtgtg aagaaggcct 420
tcgggttgta aagcactttc agcgaggagg aaggccaata acttaatacg ttgttgatt 480
gacgttactc gcagaagaag caccggctaa ctccgtgcca gcagccgcgg taatacggag 540
ggtgcaagcg ttaatcgga ttactgggcg taaagcgcac gcaggcgggt tgttaagtca 600
gatgtgaaat ccccgcgctt aacgtgggna cngcatttga aactggcaag ctagagtctt 660
gtagaggggg gtagaattcc aggtgtagcg gtgaaatgcg tagagatctg naggaatacc 720
ggtggcgaag gcggccccct ggacaaaagac tgacgctcag gtgcgaaagc gtggggagca 780
aacaggatta gataccctgg tagtccacgc tgtaaacgat gtcgacttgg aggttgtgcc 840

```

cttgaggcgt ggcttccgga gctaacgcgt taagtcgacc gcctggggag tacggccgca 900
 aggttaaaac tcaaataaat tnnccggggc cngcacaagc ggtggagcat gtggtttaat 960
 tcgatgcaac gcgaagaacc ttacctactc ttgacatcca cggaatttag cagagatgct 1020
 ttagtgnctt cgggaaccgt gagacagggtg ctgcatggct gtcgtcagct cgtgttgtga 1080
 aatgttgggt taagtccgc aacgagcgca acccttatcc tttgttgcca gcacgtaatg 1140
 gtgggaactc aaaggagact gccggtgata aaccggagga aggtggggat gacgtcaagt 1200
 catcatggcc cttacgagta gggctacaca cgtgctacaa tggcagatac aaagtgaagc 1260
 gaactcgcga gagcaagcgg accacataaa gtctgtcgta gtccggattg gagtctgcaa 1320
 ctgcactcca tgaagtcgga atcgctagta atcgtagatc agaatgctac ggtgaatacg 1380
 ttcccgggcc ttgtacacac cgcccgctcac accntgggag tgggttgcaa aagaagtagg 1440
 tagcttaacn ttcgggaggg cgcgtaccac tttgtgattc nngnc 1485

<210> 49

<211> 2927

<212> DNA

<213> *Bacillus subtilis*

<400> 49

ggttaagtta gaaagggcgc acggtggatg ccttggcact aggagccgat gaaggacggg 60
 acgaacaccg atatgcttcg gggagctgta agcaagcttt gatccggaga tttccgaatg 120
 gggaaaccca ccaactcgtaa tggagtggta tccatatctg aattcatagg atatgagaag 180
 gcagaccgga ggaactgaaa catctaagta cccggagaag agaaagcaaa tgcgattccc 240
 tgagtagcgg cgacgaacac gggatcagcc caaaccaaga ggcttgctc tgtggttgta 300
 ggacactctg tacggagtta caaaagaacg aggtagatga agaggtctgg aaaggccccg 360
 ccataggagg taacagccct gtagtcaaaa cttcgttctc tcctgagtgg atcctgagta 420
 cggcggaaca cgtgaaattc cgtcggaatc cgggaggacc atctcccaag gctaaatact 480
 ccctagttag cgatagttaa ccagtaccgt gagggaaagg tgaaaagcac cccggaaggg 540
 gagtgaaga gatcctgaaa ccgtgtgcct acaagtagtc agagcccgtt aacggtgatg 600
 gcggtgcctt tgtagaatga accggcgagt tacgatcccg tgcaagggtta agcagaagat 660
 gcgagagcgc agcgaaagcg agtctgaata gggcgcatga gtacgtggtc gtagaccgga 720
 aaccaggtga tctacccatg tccagggtga agttcaggta aactgaatg gagggccgaa 780
 cccacgcacg ttgaaaagtg cggggatgag gtgtgggtag ggtgaaatg ccaatcgaac 840
 ctggagatag ctggttctct ccgaaatagc tttagggtta gcctcaagggt aagagtcttg 900
 gaggtagagc actgattgga ctaggggccc tcaccgggtt accgaattca gtcaaaactcc 960
 gaatgccaat gacttatcct tgggagtcag actgagagtg ataagatccg tagtcgaaag 1020
 ggaaacagcc cagaccgcca gctaagggtc caaagtatac gttaagtgga aaaggatgtg 1080
 gagtgtctta gacaaccagg atgttggtt agaagcagcc accattttaa gagtgcgtaa 1140
 tagctcactg gtcgagttag tctgcgccga aaatgtaccg gggctaaacg tatcaccgaa 1200
 gctgcggact gttcttcgaa cagtggtagg agagcgttct aagggtctgt aagccagacc 1260
 ggaaggactg gtggacggct tagaagttag aatgccggta tgagtagcga aaagaggggt 1320
 gagaatccct ccaccgaatg cctaagggtt cctgaggaag gctcgtccgc tcagggttag 1380
 tcgggaccta agccgaggcc gaaaggcgta ggcgatggac aacagggtga tattcctgta 1440
 ccacctcctc accatttgag caatgggggg tcgcaggagg atagggttaag cgcggtattg 1500
 gatattccgc tccaagcagt taggctggga aataggcaaa tccgtttccc ataaggctga 1560
 gctgtgatgg cgagcgaaat atagtagcga agttcctgat tccacactgc caagaaaagc 1620
 ctctagcgag gtgagaggtg cccgtaccgc aaaccgtcac aggtaggcga ggagagaatc 1680
 ctaagggtgag cgagagaact ctcgttaagg aactcggcaa aatgaccccg taacttcggg 1740

100939.2500F

```

agaaggggtg ctctgttagg gtgcaagccc gagagagccg cagtgaatag gcccaggcga 1800
ctgttttagca aaaacacagg tctctgcaaa gccgtaaggc gaagtatatg ggctgacgcc 1860
tgccccgtgc tggaagggtta agaggagcgc ttagcgtaag cgaagggtgcg aattgaagcc 1920
ccagtaaacg gcgcccgtaa ctataacggt cctaaggtag cgaaattcct tgtcgggttaa 1980
gttccgaccc gcacgaaagg cgcaacgata tgggcgctgt ctcaacgaga gactcgggtga 2040
aattatagta cctgtgaaga tgcaggttac ccgcgacagg acggaaagac cccgtggagc 2100
tttactgcag cctgatattg aatgttggtta cagcttgtag aggataggta ggagccttgg 2160
aaaccggagc gccagcttcg gtggaggcat cgggtgggata ctaccctggc tgtattgacc 2220
ttctaacccc ccgcccttat cgggcgggga gacagtgtca ggtgggcagt ttgactgggg 2280
cggtcgcctc ctaaaaggta acggaggcgc ccaaagggtt cctcagaatg gttggaaatc 2340
attcgagag tgtaaaggca caaggagct tgactgcgag acctacaagt cgagcaggga 2400
cgaaagtcgg gcttagtgat ccggtggttc cgcattggaag ggccatcgct caacggataa 2460
aagctacccc ggggataaca ggcttatctc cccaagagc tccacatcga cggggagggt 2520
tggcacctcg atgtcggtc atcgatcct ggggctgtag tcggtcccaa ggttgggct 2580
gttcgccc ataaagcggta cgcgagctgg gttcagaac tcgtgagaca gttcgggtccc 2640
tatccgtcgc gggcgctgga aatttgagag gagctgtcct tagtacgaga ggaccgggat 2700
ggacgcaccg ctggtgtacc agttgttctg ccaagggtcat cgctgggttag ctatgtgcgg 2760
acgggataag tgctgaaagc atctaagcat gaagcccc tcaagatgag atttccatt 2820
ccgcaaggaa gtaagatccc tgaaagatga tcaggttgat aggtctgagg tggaagtgtg 2880
gcaacacatg gagctgacag atactaatcg atcaggact taaccat 2927

```

<210> 50

<211> 2922

<212> DNA

<213> Bacillus anthracis

<400> 50

```

ggttaagtta gaaagggcgc acggtggatg ccttgacact aggagtcgat gaaggacggg 60
actaacgccg atatgcttcg gggagctgta agtaagcttt gatccgaaga tttccgaatg 120
gggaaaccca ccatacgtaa tggtaggtta tccttatctg aatacatagg gtaaggaaga 180
cagaccagg gaactgaaac atctaagtac ctggagggaag agaaagcaaa tgcgatttcc 240
tgagtagcgg cgagcgaaac ggaacatagc ccaaaccaag aggcttgctt cttgggggtt 300
taggacattc tatacggagt taaaaggaa cgaggtagac gaagcgacct ggaaagggtc 360
gtcgtagagg gtaacaaccc cgtagtcgaa acttcgttct ctcttgatg tatcctgagt 420
acggcggaac acgtgaaatt ccgtcggaat ctgggaggac catctcccaa ggctaaatac 480
tccctagtga tcgatagtga accagtaccg tgagggaag gtgaaaagca ccccggaagg 540
ggagtgaag agatcctgaa accgtgtgcc taaaatagt cagagccgt taacgggtga 600
tggcgtgcct tttgtagaat gaaccggcga gttacgatcc cgtgcgagg taagctgaag 660
aggcggagcc gcagcgaaag cgagtctgaa tagggcggtt agtacgtggt cgtagaccgg 720
aaaccagggt atctacccat gtccagggtg aagttcagg aacactgaat ggaggcccga 780
accacgcac gttgaaaagt gcggggatga ggtgtgggtg gcggagaaat tccaatcgaa 840
cctggagata gctggttctc ccgaaaatag ctttagggct agccttaagt gtaagagtct 900
tggaggtaga gactgattg gactaggggt cctcatcgga ttaccgaatt cagtcaaaact 960
ccgaatgcca atgacttatc cttaggagtc agactgcgag tgataagatc cgtagtcaaa 1020
agggaacag ccagaccgc cagctaagg ccaaagtggt gtattaagt gaaaaggatg 1080
tggagttgct tagacaacta ggatgttgcc ttagaagcag ccaccattta aagagtgcgt 1140
aatagctcac tagtcgagt actctgcgcc gaaaatgtac cggggctaaa tacaccaccg 1200

```

```

aagctgcgga ttgataccaa tggatcagtg ggtaggggag cgttctaagg acagtgaagt 1260
cagaccggaa ggactgggtg agtgcttaga agtgagaatg ccggtatgag tagcgaaaga 1320
cgggtgagaa tcccgtccac cgaatgccta aggtttcctg aggaaggctc gtccgctcag 1380
ggttagtcag gacctaagcc gaggccgaca ggcgtaggcg atggacaaca ggttgatatt 1440
cctgtaccac ctctttatcg tttgagcaat ggagggacgc agaaggatag aagaagcgtg 1500
cgattgggtg tgcacgtcca agcagttagg ctgataagta ggcaaaccg cttatcgtga 1560
aggetgagct gtgatgggga agctccttat ggagcgaagt ctttgattcc ccgctgcca 1620
gaaaagcttc tagcgagata aaagggtgct gtaccgcaa cgcacacagg taggcgagga 1680
gagaatccta aggtgtgcca gagaactctg gtttaaggaac tcggcaaaat gaccccgtaa 1740
cttcgggaga aggggtgctt tcttaacgga aagccgcagt gaataggccc aagcgactgt 1800
ttagcaaaaa cacagctctc tgcgaagccg taaggcgaag tatagggggg gacacctgcc 1860
cggtgctgga aggttaagga gaggggttag cgtaagcgaa gctctgaact gaagccccag 1920
taaacggcgg ccgtaactat aacggtccta aggtagcgaa attccttgctc gggtaagttc 1980
cgaccgcac gaaagggtga acgatttggg cactgtctca accagagact cggtgaaatt 2040
atagtacctg tgaagatgca ggttaccgc gacaggacgg aaagaccccg tggagcttta 2100
ctgtagcctg atattgaatt ttggtacagt ttgtacagga taggcgggag cttttgaaac 2160
cggagcgcta gcttcgggtg aggcgctggt gggataccgc cctgactgta ttgaaattct 2220
aacctacggg tcttatcgac ccgggagaca gtgtcaggtg ggcagtttga ctggggcggt 2280
cgctcctaa agtgtaacgg aggcgccaa aggttcctc agaatgggtg gaaatcattc 2340
gtagagtgca aaggcataag ggagcttgac tgcgagacct acaagtcgag cagggacgaa 2400
agtcgggctt agtgatccgg tggttccgca tgggaaggcc atcgctcaac ggataaaagc 2460
taccggggg ataacaggct tatctcccc aagagtcac atcgacgggg aggtttggca 2520
cctcgatgtc ggctcatcgc atcctggggc tgtagtcggt cccaagggtt gggctgttcg 2580
cccattaaag cgttacgca gctgggttca gaacgtcgtg agacagttcg gtcctatcc 2640
gtcgtgggag taggaaattt gagaggagct gtccttagta cgagaggacc gggatggagc 2700
caccgctggt gtaccagttg ttctgccaag ggcatactg ggtagctatg tgcggaagg 2760
ataagtgtg aaagcatcta agcatgaag cccctcaag atgagatttc ccatagcgta 2820
agctagtaag atccctgaaa gatgatcagg ttgatagggt cgagggtgaa gcatggtgac 2880
atgtggagct gacgaatact aatagatcga ggacttaacc at 2922

```

<210> 51

<211> 2912

<212> DNA

<213> Enterococcus faecalis

<400> 51

```

ggttaagtga ataagggcgc acggtggatg ccttggcact aggagccgat gaaggacggg 60
actaacaccg atatgctttg gggagctgta agtaagctat gatccagaga tttccgaatg 120
ggggaacca atatctttta taggatatta cttttcagtg aatacatagc tgattagagg 180
tagacgcaga gaactgaaac atcttagtac ctgcaggaag agaaagaaaa ttcgattccc 240
tgagtagcgg cgagcgaaac gggaagagcc caaaccaaca agcttgcttg ttggggttgt 300
aggactcaa tatggtagtc tgttagtata gttgaaggat ttggaaaatt ccgctaaaga 360
gggtgaaagc cccgtagacg aaatgctaac aacacctagg aggatcctga gtacggcgga 420
acacgagaaa ttccgtcgga atccgcggg accatccgc aaggctaaat actccctagt 480
gaccgatagt gaaccagtac cgtgagggaa aggtgaaaag caccgggaa ggggagtga 540
atagatcctg aaaccgtgtg cctacaacaa gtcaaagctc gttaatgagt gatggcgtgc 600
cttttgtaga atgaaccggc gagttacgat tgcatgcgag gttaagtcga agagacggag 660

```

```

ccgcagcgaa agcgagtctg aatagggcga atgagtatgt agtcgtagac ccgaaacccat 720
gtgatctacc catgtccagg ttgaagggtgc ggtaaaacgc actggaggac cgaaccacacg 780
tacgttgaaa agtgcgggga tgagggtgtgg gtagcggaga aattccaaac gaacttgag 840
atagctgggt ctctccgaaa tagctttagg gctagcctcg gaattgagaa tgatggagggt 900
agagcactgt ttggactagg ggcccatctc gggttaccga attcagataa actccgaatg 960
ccattcattt atatccggga gtcagactgc gagtgataag atccgtagtc gaaagggaaa 1020
cagcccagac caccagctaa ggtcccaaaa tatatgttaa gtggaaaagg atgtgggggtt 1080
gcacagacaa ctaggatgtt ggcttagaag cagccaccat ttaaagagtg cgtaatatagct 1140
cactagtcga gtgaccctgc gccgaaaatg taccggggct aaacatatta ccgaagctgt 1200
ggactacacc attaggtgta gtggtaggag agcgttctaa gggcgttgaa ggtcgatcgt 1260
gaggacggct ggagcgctta gaagtgagaa tgccgggtatg agtagcgaaa gacaggtgag 1320
aatcctgtcc accgtatgac taaggtttcc tggggaaggc tcgtccgcc agggttagtc 1380
gggacctaa ccgaggccga taggcgtagg cgatggacaa cagggttgata ttcctgtacc 1440
agttgttttt gtttgagcaa tggagggacg cagtaggcta aggaatgcat gcgattggaa 1500
gtgcatgtcc aagcaatgag tcttgagtag agttaaatgc tttactcttt aaggacaagt 1560
tgtgacgggg agcgaaataa tagtagcgaa gttcctgatg tcacactgcc aagaaaagct 1620
tctagtgaga aaacaactgc ccgtaccgta aaccgacaca ggtagtcgag gagagtatcc 1680
taagggtgagc gagcgaaactc tcgttaagga actcggcaaa atgaccccg aacttcggga 1740
gaaggggtgc tgacttcggt cagccgcagt gaataggccc aagcgactgt ttatcaaaaa 1800
cacaggtctc tgcaaaatcg taagatgaag tataggggct gacgcctgcc cgggtgctgga 1860
aggttaagag gatgggtag cttcggcgaa gctcagaatt gaagccccag taaacggcgg 1920
ccgtaactat aacggtccta aggtagcgaa attccttgtc gggtaagtcc cgaccgcac 1980
gaaaggcgta acgatttggg cactgtctca acgagagact cggtgaaatt ttagtacctg 2040
tgaagatgca ggttaccgcg gacaggacgg aaagaccca tggagcttta ctgtagtttg 2100
atattgagtg tttgtaccac atgtacagga taggtaggag ccgatgagac cggaacgcta 2160
gtttcggagg aggcgctggt gggatactac ccttggtgta tgaacctct aaccgcacc 2220
actaatctg gtgggagaca gtgtcagatg ggcagtttga ctggggcggt cgcctcctaa 2280
aaggtaacgg aggcgcccaa aggttccctc agaatggttg gaaatcattc gaagagtgt 2340
aaggcagaag ggagcttgac tgcgagacct acaagtcgag cagggacgaa agtcgggctt 2400
agtgatccgg tggttccgca tgggaaggcc atcgctcaac ggtaaaagct accctgggga 2460
taacaggctt atctcccca agagtccaca tcgacgggga ggtttgacac ctcgatgtcg 2520
gctcgtcgca tcctggggct gtagtcggtc ccaagggttg ggctgttcgc ccattaaagc 2580
ggcacgcgag ctgggttcag aacgtcgtga gacagttcgg tccctatccg tcgcgggct 2640
tggaattttg agaggagctg tccttagtac gagaggaccg ggatggactt accgctggtg 2700
taccagttgt tctgccaagg gcattgctgg gtagctatgt agggaaaggga taaacgctga 2760
aagcatctaa gtgtgaagcc cacctcaaga tgagatttcc catttcttta agaaagtaag 2820
acccctgaga gatgatcagg tagatagggt ggaagtggaa ggctagtgat agttggagcg 2880
gaccaatact aatcggtcga ggacttaacc aa 2912

```

<210> 52

<211> 2898

<212> DNA

<213> *Lactococcus lactis*

<400> 52

```

ggcaaagtta ataagggcgc acggtggatg ccttggcact aagagccgat gaaggacgtg 60
actaacgacg atattctagg gggagcagta agtacgcatt gatccctagg tctccgaatg 120

```

ggaaaaccca gctgctacta gcagttatct atgagtgaat acatagctca tgtaaaggta 180
 acgcagagaa ctgaaacatc taagtacctg caggaagaga aagtaaaaac gatttcgtaa 240
 gtagcggcga gcgaacgcga agaagggcaa accaagaagc ttgcttcttg gggttgtagg 300
 actgcaacgt ggacttaagc attatagtcg aataacctgg gaaggttaat caaagagggt 360
 aataatcccg tagacgaaat agcgcttata cctagcagta tcctgagtag ggctggacac 420
 gcgaaatcca gtttgaatcc gggaggacca tctcccaacc ctaaatactc cttagtgacc 480
 gatagtgaac cagtaccgtg agggaaagggt gaaaagaacc cgagagggga gtgaaatagc 540
 acctgaaacc gtgtgcctac aagaagttcg agcccgttaa tgggtgagag cgtgcctttt 600
 gtagaatgaa ccggcgagtt acgttatgat gcgagggttaa gttgaagaga cggagccgta 660
 gggaaaccga gtctgaatag ggcgacttag tatcatgatg tagacccgaa acctagtgc 720
 ctatccatga gcagggtgaa ggtgtggtaa gacgcactgg aggcccgaac caggacacgt 780
 tgaaaagtgt ttggatgact tgtggatagc ggagaaattc caaacgaact gggagatagc 840
 tggttctctc cgaaatagct ttagggctag cgtcgaaatg taagtgtatt ggaggtagag 900
 cactgtttgg gtgaggggtc cgtctaggat taccaatctc agataaactc cgaatgctaa 960
 tacacatggt cggcagtcag actgcgagtg ctaagatccg tagtcgaaag ggaaacagcc 1020
 cagaccaaca gctaagggtc caaaatatat gttaaagtga aaaggatgtg gggttgcaca 1080
 gacaactagg atgttagctc agaagcagct atcattcaaa gagtgcgtaa tagctcacta 1140
 gtcgagtgac cctgcgccga aaatgtaccg gggctaaaca tattaccgaa gctttggatt 1200
 gatattttat caatggtagg agagcgttct taaccgcgat gaaggatatac cgtgaggagt 1260
 gctggagcgt taagaagtga gaatgccgtt atgagtagcg caagataagt gagaatctta 1320
 tccaccgtaa gactaagggt tccaggggaa ggctcgtccg ccctgggtta gtcgggacct 1380
 aaggcgaggc cgaaaggcgt agtcgatgga caactgggtg atattccagt actagatatg 1440
 atcgtgatgg agggacgcag taggctaaga gatgccagtt aatggattct ggtctaagca 1500
 gtgaggtgtg agatgtgtca aatgcatttc tctttaacat tgagctgtga tggggaagca 1560
 actacggttg cgaactctct gatgtcacac tgccaagaaa agcttctagc gtaaagtcac 1620
 atctaccctg accgcaaac gacacaggtg gtcgaggcga gtagcctcag gtgatcgaga 1680
 gaactctcgt taaggaaact ggcaaaatag ccccgtactc tcgggagaag gggtgctggt 1740
 gtaaaagcca gccgcagtga ataggcccaa gcaactgttt atcaaaaaca cagctctctg 1800
 ctaaaccgca aggtgatgta taggggggtga cgcctgcccg gtgctggaag gttaaagga 1860
 gtgcttagac gtaagtcgaa ggtatgaatt gaagcccag taaacggcgg ccgtaactat 1920
 aacggtccta aggtagcgaa attccttgct gggtaagtcc cgaccgcac gaaaggcgta 1980
 atgatttggg cactgtctca acgagagact cggtgaaatt ttagtacctg tgaagatgca 2040
 ggttaccctg gacaggacgg aaagacccca tggagcttta ctgtagtttg atattgagta 2100
 cctgtaagtc atgtacagga taggtaggag ccattgaaat agggacgcta gtttctattg 2160
 aggcgttggt gggatactac ccttgactta tggttactct aaccgcctgg cataatcggc 2220
 caggagagaca gtgtctgacg gacagtttga ctggggcggt cgctcctaaa gagtaacgga 2280
 ggcgctcaaa ggttggtcga gattggttg aaatcaatcg tagagtgtaa aggtaaaagc 2340
 cagcttgact gcgagagcta caactcgagc aggtaggaaa ctaggactta gtgatccggt 2400
 ggtaccgcat ggaagggcca tcgctcaacg gataaaagct accctgggga taacaggctt 2460
 atctccccca agagttcaca tcgacgggga ggtttggcac ctcgatgtcg gctcgtcgca 2520
 tcctggggct gtagtcggtc ccaagggttg ggctgttcgc cattaaagcg gcacgcgagc 2580
 tgggttcaga acgtcgtgag acagttcggc ccctatccgt cgcgggcgta ggtaatttga 2640
 gaggatctgt ccttagtacg agaggaccgg gatggactta ccgctggtgt accagttgtt 2700
 ccgccaggag cagggtgga tagctatgta gggaaggat aagcgtgaa agcatctaag 2760
 tgcgaagccc acctcaagat gagattaccc attcgtaaga attaagagcc cagagagatg 2820
 atctggtaga taggctggaa gtggaagagt tgcgagactt ggagcggacc agtactaatc 2880
 gctcgaggac tttaacaa 2898

```
<210> 53
<211> 2932
<212> DNA
<213> Listeria monocytogenes
```

<400> 53						
ggttaagtta	gaaagggcgc	acggtggatg	ccttggcact	aggagccgaa	gaaggacggg	60
actaacaccg	atatgctttg	gggagctgta	cgtaagcggt	gatccagaga	tttccgaatg	120
ggggaaccca	ctatctttag	tcggatagta	tccttacgtg	aatacatagc	gtgaggaagg	180
cagaccagag	gaactgaaac	atctaagtac	ctggaggaag	agaaagaaaa	atcgatttcc	240
tgagtagcgg	cgagcgaaac	ggaaagagcc	caaaccaaga	agcttgcttc	ttggggttgt	300
aggacactct	atacggagtt	acaaaagaaa	gttataaatg	aagcgggtctg	gaaaggcccg	360
ccaaagacgg	taacagcccg	gtagttgaaa	tggctttccc	tccagagtgg	atcctgagta	420
cggcggaaca	cgtgaaattc	cgtcggaaatc	cgggaggacc	atctcccaag	gctaaatact	480
ccctagtgtac	cgatagttaa	ccagtaccgt	gagggaaaag	tgaaaagcac	cccggaaggg	540
gagtgaacaa	gttcctgaaa	ccgtgtgcct	acaagtagtt	agagcccggt	aatgggtgat	600
agcgtgcctt	ttgtagaatg	aaccggcgag	ttacgatttg	ttgcaagggt	aagcggaaaa	660
agcggagccg	tagcgaaagc	gagtctgaat	agggcgcata	agtaacagggt	cgtagaccgg	720
aaaccagggtg	atctacccat	gtccaggatg	aaggtaagggt	aatacttact	ggaggtccga	780
accacgcac	gttgaaaagt	gcggggatga	ggtgtgggta	gcggagaaat	tccaatcgaa	840
cttgagagata	gctggttctc	tccgaaatag	ctttaggggct	agcctcgagg	taaagagtca	900
tggaggtaga	gcactgtttg	gactaggggc	ccttctcggg	ttaccgaatt	cagataaact	960
ccgaatgcc	tgtacttata	ctcgggagtc	agactgcgag	tgataagatc	cgtagtcgaa	1020
agggaaacag	cccagaccac	cagttaagggt	ccccaatat	atgttaagtg	gaaaagggatg	1080
tggggttgct	tagacaacca	ggatgtttgg	ttagaagcag	ccaccattga	aagagtgcgt	1140
aatagctcac	tggctgagtg	accccgcgcc	gaaaatgtac	cggggctaaa	catattaccg	1200
aaactgtgga	tgaacctctt	tagaggttcg	tggtaggaga	gcgttctaag	ggcgggtgaag	1260
tcagaccgga	aggactggtg	gagcgcttag	aagtgagaat	gccggtatga	gtagcgaaag	1320
aagggtgaga	atcccttcca	ccgaatatct	aaggtttctt	gaggaagggt	cgtccgctca	1380
gggttagtcg	ggacctaaag	cgaggccgat	aggcgtaggc	gatggacaac	aggtagagat	1440
tctgtacca	gtgctaattg	tttaaccgat	ggggtgacac	agaaggatag	ggaatcgcac	1500
gaatggaaat	gtgctgccaa	gcagtgagtg	tgagaagtag	gcaaattccg	ttctcacgaa	1560
gcatgagctg	tgatggggaa	ggaaattaag	tacggaagtt	cctgatttca	cgctgtcaag	1620
aaaagcctct	aggaagagta	gtactgcccg	taccgcaaac	cgacacaggt	agatgaggag	1680
agaatcctaa	ggtgagcgag	agaactctcg	ttaaggaaat	cggcaaaatg	accccgtaac	1740
ttcggggagaa	ggggtgctct	attaggggtg	aagcccgaga	gagccgcagt	gaataggccc	1800
aggcgactgt	ttagcaaaaa	cacaggtctc	tgcaaaaccg	taagggtgacg	tataggggct	1860
gacgcctgcc	cgggtgctgga	agggttaagag	gagtgtcttag	cttcggcgaa	ggtacgaatt	1920
gaagccccag	taaacggcgg	ccgtaactat	aacggtccta	aggtagcgaa	attccttgct	1980
gggtaagttc	cgaccgcac	gaaaggcgca	acgatctggg	cactgtctca	acgagagact	2040
cggtgaaatt	atagtacctg	tgaagatgca	ggttaccgc	gacaggacgg	aaagaccccg	2100
tggagcttta	ctgcaacctg	atatggaatg	tttgtaccgc	ttgtacagga	taggtaggag	2160
ccgaagagac	gtgtgcgcta	gcatacgagg	aggcaatgggt	gggatactac	cctggctgta	2220
tgaccattct	aaccggccac	gcttagcgcg	tggggagaca	gtgtcagggtg	ggcagtttga	2280
ctggggcggt	cgctctctaa	agagtaacgg	aggcgcccaa	aggttccctc	agaatggatg	2340
gaaatcattc	gcagagtgtg	aaggcacaag	ggagcttgac	tgcgagactg	acaagtcgag	2400
cagggacgaa	agtcgggctt	agtgatccgg	tggttccgca	tggaaggggc	atcgctcaac	2460

gagaccgata ggtgtatccg atgggcaaca ggttgatatt cctgtactag agtattgagt 1440
gaaggaggga cgcagcaggc taactagagc gtgcgattgg aagagcacgt ccaagcagtg 1500
aggtgaggac tgagtcaa at gcttagttct gcgccaccaa gctgtgacgg ggagcgaagt 1560
ttagtagcga agctagtgat gtcactctgc caagaaaagc ttctagcgtt aatgaatact 1620
ctaccctgtac cgcaaacgca cacaggtagt cgaggcgagt agcctcaggt gatcgagcga 1680
actctcgtta aggaactcgg caaaatggcc ccgtaacttc gggagaaggg gcgctggcga 1740
taagtcagcc gcagtgtaaa ggcccaagca actgtttatc aaaaacacag ctctctgcga 1800
aatcgtaaga tgaagtatag ggggtgacgc ctgcccgggtg ctggaagggt aagaggagcg 1860
cttagacgtt tgtcgaagggt gtgaattgaa gccccagtaa acggcggccg taactataac 1920
ggtcctaagg tagcgaaatt ccttgctcggg taagttccga cccgcacgaa aggcgtaattg 1980
atgtgggcac tgtctcaacg agagactcgg tgaaatttta gtacctgtga agatgcaggt 2040
taccgcgcgac aggcgcgaaa gaccccatgg agctttactg cagtttgata ttgcgtatct 2100
gttacacatg tacaggatag gtaggagcca aggaagagtg aacgctagtt tacttggagg 2160
cgttgttggg atactaccct tgtgtgatgg ctactctaac ccggtagggt gatcatctac 2220
ggagacagtg tctgacgggc agtttgactg gggcggtcgc ctctaaagc gtaacggagg 2280
cgcccaaagg ttccctcaga ctggttgaa atcagtcgta gagtgtaaag gtataaggga 2340
gcttgactgc gagacagaca agtcgagcag ggacgaaagt cgggcttagt gatccgggtg 2400
taccgtatgg aagggccatc gctcaacgga taaaagctac cctggggata acaggcttat 2460
ctcccccaag agttcacatc gacggggagg tttggcacct cgatgtcggc tcgtcgcac 2520
ctggggctgt agtcggtccc aagggttggg ctgttcgccc attaaagcgg cacgcgagct 2580
gggttcagaa cgtcgtgaga cagttcggtc cctatccgtc gcgggcgaag gaaatttgag 2640
aggatctgct cctagtacga gaggaccaga gtggacttac cgctggtgta ccagttgttc 2700
tgccaagagc atcgctgggt agctaagtag ggaggggata aacgctgaaa gcatctaagt 2760
gtgaagcccc cctcaagatg agatttccca taacgttcag ttagtaagag ccctgaaaga 2820
agaacaggta gatagggttg gagtgggaagc gttgtgagac gtgaagcgga ccaatactaa 2880
tcgctcgagg acttatccaa 2900

<210> 56

<211> 2902

<212> DNA

<213> Streptococcus pneumoniae

<400> 56

ggttaagtta ataagggcgc acggtggatg ccttggcact aggagccgac gaaggacgtg 60
acaaacgacg atatgccttg ggtagctgta agtaagcgat gatccaggga tttccgaatg 120
ggggaaccca acaggtaata cctgttacct acatctgtta aggatgtgag gaggaagacg 180
cagtgaactg aaacatctaa gtagctgcag gaagagaaag caaaagcgat tgccttagta 240
gcggcgagcg aaacggcaga agggcaaacc gaagagttaa ctcttcgggg ttgtaggact 300
gcaatgtgga ctcaaagatt atagaagaat gatttgggaa gatcagccaa agagagtaat 360
agcctcgtat ttaaaatagt ctttgtactt agcagtatcc tgagtacggc gggacacgtg 420
aaatcccgtc ggaatctggg aggaccatct cccaacccta aatactccct agtgaccgat 480
agtgaaccag taccgtgagg gaaagggtgaa aagcaccctg ggaggggagt gaaatagaac 540
ctgaaaccgt gtgcctacaa caagttcgag cccgttaatg ggtgagagcg tgccttttgt 600
agaatgaacc ggcgagttac gttatgatgc gaggttaagt tgaagagacg gagccgtagg 660
gaaaccgagt ctgaataggg cgccttagta tcatgacgta gaccgaaac catgtgacct 720
acccatgagc aggttgaaag tgcggttaaga cgactggag gaccgaacca gggcacgttg 780
aaaagtgcct ggatgacttg tgggtagcgg agaaattcca aacgaacttg gagatagctg 840

```

gttctctccg aaatagcttt agggctagcg tcgacattag agattcttgg aggtagagca 900
ctgtttgggt gaggggtcca tcccgatta ccaatctcag ataaactccg aatgccaatg 960
aattatgggtc ggcagtcaga ctgcgagtg taagatccgt agtcgaaagg gaaacagccc 1020
agaccaccag ctaaggtccc aaaataattg ttaagtggaa aaggatgtgg ggttgcacag 1080
acaactagga tgttagctta gaagcagcta ttcattcaaa gagtgcgtaa tagctacta 1140
gtcgagtgac cctgcgccga aaatgtaccg gggctaaaac aatttaccga agctgtggat 1200
acctttatag gtatggtagg agagcgttct atgtgtgatg aaggatatacc gtgaggagt 1260
ctggaacgca tagaagttag aatgccggta tgagtagcga aagacagggtg agaatcctgt 1320
ccaccgtaag actaagggtt ccagggggaa gctcgtccgc cctgggttag tcgggacct 1380
aggagagacc gaaaggtgta tccgatggac aacagggttg tattcctgta ctagagtatg 1440
tagtgatgga gggacgcagt aggcctaact aagcagacga ttggaagagt ctgtctaagc 1500
agtgagggtg gaattgagtc aaatgcttaa ttctataaca ttgagctgtg atggggagcg 1560
aagtttagta gcgaagttag tgacgtcaca ctgccaagaa aagcttctag cgtttaaaca 1620
tactctaccc gtaccgcaaa ccgacacagg tagtcgaggc gagtagcctc aggtgagcga 1680
gagaactctc gttaaggaac tcggcaaaat gaccccgtaa ctccgggaga aggggtgctg 1740
acttaagtc agccgcagtg aataggccca agcaactgtt tatcaaaaac acagctctct 1800
gctaaatcgt aagatgatgt ataggggggtg acgcctgccc ggtgctggaa ggttaagagg 1860
agtgccttagc gtaagcgaag gtatgaattg aagccccagt aaacggcggc cgtaactata 1920
acggtcctaa ggtagcgaat ttccttgctg ggtaagttcc gaccgcacg aaaggcgtaa 1980
tgatttgggc actgtctcaa cgagagactc ggtgaaattt tagtacctgt gaagatgcag 2040
gttaccgcgc acaggacgga aagaccccat ggagctttac tgcagtttga tattgagtgt 2100
ctgtaccaca tgtacaggat aggtaggagt ctaagagatc gggacgccag ttccgaagga 2160
gacgctgttg ggatactacc cttgtgttat ggccactcta acccagatag gtgatcccta 2220
tcggagacag tgtctgacgg gcagtttgac tggggcggtc gcctcctaaa aggtaacgga 2280
ggcgcccaaa ggttccctca gaatggttgg aaatcattcg cagagtgtaa aggtataagg 2340
gagcttgact gcgagagcta caactcgagc agggacgaaa gtcgggctta gtgatccggt 2400
ggttccgtat ggaagggcca tcgctcaacg gataaaagct accctgggga taacaggctt 2460
atctcccca agagttcaca tcgacgggga ggtttggcac ctcgatgtcg gctcgtcgca 2520
tcctggggct gtagtcggtc ccaagggttg ggctgttcgc ccattaaagc ggcacgcgag 2580
ctgggttcag aacgtcgtga gacagttcgg tccctatccg tcgcggcggt aggaaatttg 2640
agaggatctg ctccatgtac gagaggacca gagtggactt accgctggtg taccagttgt 2700
cttgccaaaag gcatcgctgg gtagctatgt agggaaggga taaacgctga aagcatctaa 2760
gtgtgaaacc cacctcaaga tgagatttcc catgattata tatcagtaag agccctgaga 2820
gatgatcagg tagataggtt agaagtggaa gtgtggcgac acatgtagcg gactaatact 2880
aatagctcga ggacttatcc aa 2902

```

<210> 57

<211> 2901

<212> DNA

<213> Streptococcus pyogenes

<400> 57

```

ggttaagtta ataagggcg acggtggatg ccttggcact agaagccgaa gaaggacgtg 60
actaacgacg aaatgctttg gggagctgta agtaagcgct gatccagaga tgtccgaatg 120
ggggaacccg gcatgtaatg catgtcatcc atgactgtta aggtcatgag aaggaagacg 180
cagtgaactg aaacatctaa gtagctgcag gaagagaaaag caaacgcgat tgccttagta 240
gcggcgagcg aaacggcagg agggcaaacc gaggagttaa ctccctgggg ttgtaggact 300

```

gcgaagtggg	acataaagtt	aatagaagaa	ttacctggga	aggtaagcca	aagagagtaa	360
cagcctcgta	tttaaaattg	acttttagccc	tagcagtatc	ctgagtacgg	cgagacacgc	420
gaaatctcgt	cggaatctgg	gaggaccatc	tcccaaccct	aaatactctc	tagtgaccga	480
tagtgaacca	gtaccgtgag	ggaaaggtga	aaagcacccc	gggaggggag	tgaaatagaa	540
cctgaaaccg	tgtgcctaca	acaagttcga	gcccgттаат	gggtgagagc	gtgccttttg	600
tagaatgaac	cggcgagtta	cgatatgatg	cgaggttaag	ttgaagagac	ggagccgtag	660
ggaaaccgag	tcttaatagg	gcgtcatagt	atcatgttgt	agacccgaaa	ccatgtgacc	720
tacccatgag	cagggttgaag	gtgtgggtaa	acgcactgga	ggaccgaacc	agggcacggt	780
gaaaagtgct	tggatgactt	gtgggtagcg	gagaaattcc	aaacgaactt	ggagatagct	840
ggttctctcc	gaaatagctt	tagggctagc	gtcgatgtta	agtctcttgg	aggtagagca	900
ctgtttgggt	gaggggtcca	tcccggatta	ccaatctcag	ataaactccg	aatgccaacg	960
agatataatc	ggcagtcaga	ctgcgagtgc	taagatccgt	agtcgaaagg	gaaacagccc	1020
agaccaccag	ctaaggtccc	aaaataactg	ttaagtggaa	aaggatgtgg	ggttgcacag	1080
acaactagga	tgttagctta	gaagcagcta	ttcattcaaa	gagtgcgtaa	tagctcacta	1140
gtcgagtgc	cctgcgccga	aaatgtaccg	gggctaaaac	agtttaccga	agctgtggat	1200
gacacaaaag	tgtcatggta	ggagagcggt	ctatgtgtga	agaaggtgta	ccgtgaggag	1260
cgctggaacg	catagaagtg	agaatgccgg	tatgagtagc	gaaagacagg	tgagaatcct	1320
gtccaccgta	agactaaggt	ttccagggga	aggctcgtdc	gccctgggtt	agtcgggacc	1380
taaggagaga	ccgaaagggt	tatccgatgg	ccaacagggt	gatattcctg	tactagagta	1440
tatagtgatg	gagggacgca	gtaggctaac	taaaccggac	gattggaaga	gtccggctaa	1500
gcagtgaggt	gtaagatgag	tcaaatgctt	atctttataa	cattgagctg	tgatggggag	1560
cgaatttttag	tagcgaagtt	agtgatgtca	cactgccaa	aaaagcttct	agcgtttaat	1620
gatactctac	ccgtaccgca	aaccgacaca	ggtagtcgag	gcgagtagcc	tcaggtgatc	1680
gagagaactc	tcgttaagga	actcggcaaa	atgaccccg	aacttcggga	gaaggggtgc	1740
tgacttaggt	cagccgcagt	gaataggccc	aagcaactgt	ttatcaaaaa	cacagctctc	1800
tgctaaatcg	taagatgatg	tatagggggt	gacgcctgcc	cggtgctgga	aggttaagag	1860
gagggtttag	cgcaagcgaa	gatctgaatt	gaagccccag	taaacggcgg	ccgtaactat	1920
aacggtccta	aggtagcgaa	attccttgct	gggtaagttc	cgaccgcgac	gaaaggcgta	1980
atgatttggt	cactgtctca	acgagagact	cggtgaaatt	ttagtacctg	tgaagatgca	2040
ggttaccggc	gacaggacgg	aaagacccca	tggagcttta	ctgcagtttg	atattgagta	2100
tctgtaccac	atgtacagga	taggtaggag	ccattgactt	cgggacgcca	gtttcgaatg	2160
aggcgttggt	gggatactac	ccttggtgta	tggctactct	aaccagata	ggttatccct	2220
atcgagaca	gtgtctgacg	ggcagtttga	ctggggcggt	cgcctcctaa	agagtaacgg	2280
aggcgcccaa	aggttccctc	agattgggtg	gaaatcaatc	gcagagtgta	aagggtataag	2340
ggagcttgac	tgcgagagct	acaactcgag	cagggacgaa	agtcgggctt	agtgatccgg	2400
tggtaccgaa	tggaagggcc	atcgctcaac	ggataaaaag	taccctgggg	ataacagggt	2460
tatctcccc	aagagttcac	atcgacgggg	aggtttggca	cctcgatgtc	ggctcgctcg	2520
atcctggggc	tgtagtcggt	cccaagggtt	gggctgttcg	ccattaaag	cggcacgcga	2580
gctgggttca	gaacgtcggt	agacagttcg	gtccctatcc	gtcgcgggcg	taggaaattt	2640
gagaggatct	gtcctagta	cgagaggacc	agagtggact	taccgctggt	gtaccagttg	2700
tcttgccaaa	ggcatcgctg	ggtagctatg	tagggaaggg	ataagcgctg	aaagcatcta	2760
agtgcgaagc	ccccctcaag	atgagatttc	ccatgatttt	atatcagtaa	gagccctgag	2820
agatgatcag	gtagataggt	taggagtgtg	agtgtagcga	tacatgtagc	ggactaatac	2880
taatagctcg	aggacttatc	c				2901

<211> 3107

[illegible][illegible][illegible][illegible]


```

taaaccatgc accgaagctg cggcagcgac actgtgtgtt gttgggtagg ggagcggttct 1200
gtaagcctgt gaaggtgtac tgtgaggtat gctggaggta tcagaagtgc gaatgctgac 1260
ataagtaacg ataaagcggg tgaagagccc gctcgccgga agaccaaggg ttcctgtcca 1320
acgttaatcg gggcaggggtg agtcgacccc taaggcgagg ccgaaaggcg tagtcgatgg 1380
gaaacagggtt aatattcctg tacttggtgt tactgcgaag gggggacgga gaaggctatg 1440
ttggccgggc gacggttgtc ccggtttaag cgtgtaggct ggttttccag gcaaatcccg 1500
aaaatcaagg ctgaggcgtg atgacgaggc actacgggtg tgaagcaaca aatgccctgc 1560
ttccaggaaa agcctctaag catcaggtaa catcaaactg taccctaaac cgacacaggt 1620
ggtcaggtag agaataccaa ggcgcttgag agaactcggg tgaaggaaact aggcaaaatg 1680
gtgccgtaac ttcgggagaa ggcacgctga tatgtaggtg aagtccctcg cggatggagc 1740
tgaaatcagt cgaagatacc agctggctgc aactgtttat taaaaacaca gcaactgtgca 1800
aacacgaaag tggacgtata cgggtgtgac cctgcccggg gccggaagggt taattgatgg 1860
ggtcagcgca agcgaagctc ttgatcgaag ccccggtaaa cggcgggcgt aactataacg 1920
gtcctaagggt agcgaattc cttgtcgggt aagtccgac ctgcacgaat ggcgtaatga 1980
tggccaggct gtctccacc gagactcagt gaaattgaac tcgctgtgaa gatgcagtgt 2040
acccgcggca agacggaaa agcccggtga cctttactat agcttgacac tgaacattga 2100
gccttgatgt gtaggatagg tgggaggctt tgaagtgtgg acgccagtct gcatggagcc 2160
gaccttgaaa taccaccctt taatgtttga tgttctaacg tggaccctg atccgggttg 2220
cggacagtgt ctggtgggta gtttgactgg ggcggtctcc tcctaaagag taacggagga 2280
gcacgaagggt tggctaatac tggtcggaca tcaggagggt agtgcaatgg cataagccag 2340
cttgactgcg agcgtgacgg cgcgagcagg tgcgaaagca ggtcatagt atccggtgg 2400
tctgaatgga agggccatcg ctcaacggat aaaagggtact ccggggataa caggctgata 2460
ccgccaaga gttcatatcg acggcggtgt ttggcacctc gatgtcggct catcacatcc 2520
tggggctgaa gtaggtccca agggatatggc tgttcgccat ttaaagtgg acgcgagctg 2580
ggtttagaac gtcgtgagac agttcgggtc ctatctgccg tgggcgctgg agaactgagg 2640
ggggctgctc ctagtacgag aggaccggag tggacgcac actggtgttc gggttgtcat 2700
gccaatggca ctgcccggta gctaaatgcg gaagagataa gtgctgaaag catctaagca 2760
cgaaacttgc cccgagatga gttctccctg accctttaag ggtcctgaag gaacgttgaa 2820
gacgacgacg ttgataggcc ggggtgtgta ggcgagcgat gcgttgagct aaccggtact 2880
aatgaaccgt gaggcttaac ctt
2903

```

<210> 61

<211> 2903

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 61

```

ggttaagcga ctaagcgtac acggtggatg ccctggcagt cagaggcgat gaaggacgtg 60
ctaactctgcg aaaagcgtcg gtaaggtgat atgaaccgtt ataaccggcg atgtccgaat 120
ggggaaaccc agtgcaattc gttgcactat cgtaaactga atacataggt taacgaggcg 180
aaccggggga actgaaacat ctaagtaccc cgaggaaaag aaatcaaccg agattcccc 240
agtagcgggc agcgaacggg gagcagccca gagtctgaat cagcttgtgt gttagtggaa 300
cggctctggaa agtccgacgg tacagggtga tagtcccgt caccaaaatg cacaggctgt 360
gaactcgaag agtagggcgg gacacgtgg atcctgtctg aatatggggg gaccatcctc 420
caaggctaaa tactcctgac tgaccgatag tgaaccagta ccgtgaggga aaggcgaaaa 480
gaaccccggc gaggggagtg aaaaagaacc tgaaaccgtg tacgtacaag cagtgggagc 540
accttcgggt gtgactgcgt accttttgta taatgggtca gcgacttata ttctgtagca 600

```



```

aggttaaccg tataggggag ccgcagggaa accgagtctt aactgggcgt taagttgcag 660
ggtatagacc cgaaacccgg tgatctagcc atgggcaggt tgaaggttg gtaacactaa 720
ctggaggacc gaaccgacta atgttgaaaa attagcggat gacttgtggc tgggggtgaa 780
aggccaatca aaccgggaga tagctggttc tccccgaaag ctatttaggt agcgcctcgt 840
gaactcatct tcgggggtag agcactgttt cggctagggg gtcacccga cttaccaacc 900
cgatgcaaac tacgaatacc gaagaatgtt atcacgggag acacacggcg ggtgctaacc 960
tccgctcgtga agagggaaac aaccagacc gccagctaag gtcccaaagt catggttaa 1020
tgggaaacga tgtgggaagg cacagacagc caggatgttg gcttagaagc agccatcatt 1080
taaagaaagc gtaatagctc actggtcgag tcggcctgcg cggaagatgt aacggggcta 1140
aaccatgcac cgaagctgcg gcagcgacac tatgtgttgt tgggtagggg agcgttctgt 1200
aagcctgcga aggtgtgctg tgaggcatgc tggaggtatc agaagtgcga atgctgacat 1260
aagtaacgat aaagcgggtg aaaagccgc tcgccggaag accaagggtt cctgtccaac 1320
gttaatcggg gcagggtgag tcgacccta aggcgaggcc gaaaggcgta gtcgatggga 1380
aacaggttaa tattcctgta cttggtgtta ctgcgaaggg gggacggaga aggctatgtt 1440
agccgggcga cgttgtccc ggtttaagca tgtaggctgg ttgtccaggc aaatccggat 1500
aatcaaggct gaggtgtgat gacgaggcac tacggtgctg aagtaacaaa tgctctgctt 1560
ccaggaaaag cctctaagca tcaggtaaca tcaaactgta ccccaaaccg acacagggtg 1620
tcaggtagag aataccaagg cgcttgagat aactcgggtg aaggaactag gcaaaatggt 1680
gccgtaactt cgggagaagg cacgctggtg tgtaggtgaa gccctgccg ggtggagctg 1740
agaccagtcg aagataccag ctggtcgcaa ctgtttatta aaaacacagc actgtgcaaa 1800
cacgaaagtg gacgtatacg gtgtgacgcc tgcccgggtg cggaagggtt attgatggg 1860
ttatccgtaa ggagaagctc ttgatcgaag ccccggtaaa cggcggccgt aactataacg 1920
gtcctaaggt agcgaaattc cttgtcgggt aagttccgac ctgcacgaat ggcgtaatga 1980
tggccaggct gtctccacc gagactcagt gaaattgaac tcgctgtgaa gatgcagtgt 2040
acccgcggca agacggaaag acccgtgaa cctttactat agcttgacac tgaacattga 2100
gccttgatgt gtaggatagg tgggaggctt tgaagcgtgg acgccagtct gcgtggagcc 2160
aaccttgaia taccaccctt taatgtttga tgttctaacg ttggcccctc accgggggtt 2220
cggacagtgt ctggtgggta gtttgactgg ggcggtctcc tcccaaagcg taacggagga 2280
gcacgaaggt tagctaatec tggtcggaca tcaggagggt agtgcaatgg cataagctag 2340
cttgactgcg agcgtgacgg cgcgagcagg tgcgaaagca ggtcatagtg atccggtgg 2400
tctgaatgga agggccatcg ctcaacggat aaaaggtact ccggggataa caggctgata 2460
ccgcccaga gttcatatcg acggcgggtg ttggcacctc gatgtcggct catcacatcc 2520
tggggctgaa gtaggtccca agggataggc tgttcgccat ttaaagtgg acgcgagctg 2580
ggtttagaac gtcgtgagac agttcgggtc ctatctgccg tgggcgctgg agaattgagg 2640
ggggtgctc ctagtacgag aggaccggag tggacgcac actggtgttc ggttgtcat 2700
gccaatggca ctgcccggt gctaaatgcg gaagagataa gtgctgaaag catctaagca 2760
cgaaacttgc cccgagatga gttctccctg agactttaag tctcctgaag gaacgttgaa 2820
gacgacgacg ttgataggcc ggggtgtgta gcgcagcgat gcgttgagct aaccggtact 2880
aatgaaccgt gaggttaac ctt 2903

```

<210> 62

<211> 2897

<212> DNA

<213> Haemophilus influenzae

<400> 62

gtatagttaa gtgactaagc gtacaagggt gatgccttgg caatcagagg cgaagaagga 60

cgtgctaatc tgcgaaaagc ttggatgagt cgataagagg cgtttaatcc aagatatccg 120
 aatggggaaa ccagtagat gaagaatcta ctatcaacaa gtgaattcat agcttggtga 180
 ggcaaaccgg gagaactgaa acatctaagt accccgagga aaagaaatca accgagattt 240
 cgtcagtagc ggcgagcgaa agcgaaagag ccagtaagtg atagcaatat agtgaggaga 300
 atgtgttggg aagcacaatc aaagaggggtg ataatcccgt atctaaaaac catattgtgg 360
 tactaagcta acgagaagta gggcgggaca cgtgatatcc tgtttgaaga agggggggccc 420
 atcctccaag gctaaatact cctgattgac cgatagtga ccagtactgt gaaggaaagg 480
 cgaaaagaac cccggtgagg ggagtgaat agaacctgaa accttgtagc tacaagcagt 540
 gggagcgagg gcaaccttgt gactgcgtac cttttgtata atgggtcagc gacttatatt 600
 ttgtagcgag gttaaccgaa taggggagcc gaagggaac cgagtcctaa ctgggcgaat 660
 agttgcaagg tatagaccgg aaaccgggtg atctagccat gggcaggttg aaggttgggt 720
 aacactaact ggaggaccga accgactaat gttgaaaaat tagcggatga cttgtggctg 780
 ggggtgaaag gccaatcaaa ccgggagata gctggttctc cccgaaatct atttaggtag 840
 agccttgagg tgacaccttt gggggtagag cactgtttcg gctagggggc catcccggt 900
 taccaaccgg atgcaaaacta cgaataccaa agagtgatac tcaggagaca cacggcggt 960
 gctaacgtcc gtcgtggaga gggaaacaac ccagaccgcc agctaaggtc cccaagtcta 1020
 tattaagtgg gaaacgaagt gggaaggctt agacagctag gatgttggct tagaagcagc 1080
 catcatTTaa agaaagcgta atagctcact agtcgagtcg gcctgcgcgg aagatgtaac 1140
 ggggctgaaa tatagaccgg aagctgcggc atcagaattt attctgttgg gtaggggagc 1200
 gttgtgtaag cggaagaagg ttcacgaga ggtgggctgg acgtatcaca agtgcgaaatg 1260
 ctgacataag taacgataaa acgggtgaaa aaccggttcg ccggaagacc aagggttcct 1320
 gtccaacgtt aatcggggca gggtagtcg gctcctaagg cgaggctgaa aagcgtagtc 1380
 gatgggaaac aggttaatat tcctgtactt ggtaaagctg cgatgtgggg acggagtagg 1440
 ttaggttatc gactgttggt atatgtgcgt ttaagttggt aggtgggaag tttaggcaaa 1500
 tccggaactt cttaacacag agagatgatg acgaggtctt acggagctga agtaactgat 1560
 accacacttc caggaaaagc cactaagcga aaggctttac taaaccgtac tgaaaaccga 1620
 cacaggtggt caggtagaga atactcaggc gcttgagaga actcgggtga aggaactagg 1680
 caaaatagca ccgtaacttc gggagaagggt gcgccggcgt agattgtaag ggctagcccc 1740
 tgaaggttga accggtcgaa gataccagct ggctgcaact gtttattaaa aacacagcac 1800
 tctgcaaaca cgaaagtga cgtatagggt gtgatgcctg cccggtgctg gaaggttaat 1860
 tgatggtgtc atcgaaagag aagcacctga tcgaagcccc agtaaaggc gccgtaact 1920
 ataacggtcc taaggtagcg aaattccttg tcgggtaagt tccgacctgc acgaatggca 1980
 taatgatggc caggctgtct ccaccgaga ctcagtgaat ttgaaatcgc cgtgaagatg 2040
 cgggtgtacc gcggctagac ggaaagacc cgtgaacctt tactatagct tgacactgaa 2100
 cattgaattt tgatgtgtag gataggtggg agcctttgaa gcagtgcgc cagtcattgt 2160
 ggaggcgacc ttgaaatacc accctttaac gttttagtgt ctaacgaaga tgacgaaacg 2220
 tggctctcga cagtgtctgg tgggtagttt gactggggcg gtctcctccc aaagcgtaac 2280
 ggaggagcac gaaggtttgc taatcacggt cgacatcgt gaggttagtg caatggtata 2340
 agcaagctta actgcgagac agacaagtcg agcaggtacg aaagtaggtc atagtgatcc 2400
 ggtggttctg aatggaaggg ccacgctca acggataaaa ggtactccgg ggataacagg 2460
 ctgataccgc ccaagagttc atatcgacgg cgggtgttgg cacctcgatg tcggctcatc 2520
 acatcctggg gctgaagtag gtcccaaggg tatggctgtt cgccatttaa agtggtacgc 2580
 gagctgggtt tagaacgtcg tgagacagtt cggctccctat ctgccgtggg cgtaggatga 2640
 ttgattgggg ctgctcctag tacgagagga ccggagtggg cgcatcactg gtgttccggt 2700
 tgtgtcgcca gacgcattgc cgggtagcta aatgcggaag agataagtgc tgaaagcatc 2760
 taagcacgaa acttgccaag agatgagtca tcctgactt taagtcagta agggttgttg 2820
 tagactacga cgtagatagg ttgggtgtgt aagtgatgtg agtcattgag ctaaccaata 2880
 ctaattgccc gagaggc 2897

gaactcgagt cgccagattc gagggagcca tccttgaaat accaccctgg tttgtttgcg 2160
gttctaacct tgggtccgtta tccggatcgg ggacagtgca tggtaggcag tttgactggg 2220
gcggtctcct cccaaagcgt aacggaggag ttcgaaggta cgctaggtag ggtaggaaat 2280
cgtgctgata gtgcaatggc ataagcgtgc ttgactgtga gactgacagt gaacagggtgc 2340
gaacgggaca tagtgatccg gtggttctga tgggaaggcc atcgctcaac ggataaagggt 2400
actctgggat aacaggctga taccgcccga gagttcatat cgacggcggg gtttggcacc 2460
tcgatgtcgg ctcatctcat cctggggctg tagccgggtcc aagggtatgc tgttcgccat 2520
ttaaagagggt acgtgagctg ggtttagaaa cgtcgtgaga cagtttggtc cctatctgcc 2580
gtgggctgtt gatacttgaa caggagcctg ctcttagtac gagaggaccg gagtggacgt 2640
acctctgggt taccggttgt catgccaatg gcattgccgg gtagctaagt acggaagaga 2700
taaccgctga aggcattctaa gcgggaaact cgtctgaaga ttaggtatcc cggggactag 2760
atccccctga agggctgttc gagaccagga cgttgatagg tcgggtgtgg aagcgcagta 2820
atgcgttaag ctaaccgata ctaattgccg gtgaggctta atcct 2865

<210> 64

<211> 2865

<212> DNA

<213> Bordetella parapertussis

<220>

<221> modified_base

<222> (624)

<223> N = A, C, G or T/U

<400> 64

gatcaagcga ctaagtgcag atggtggatg ccttggcgat cacaggcgat gaaggacgta 60
gtagcctgcg aaaagctgcg gggagctggc aaacaagcat tgatccgcag atatccgaat 120
ggggaaaccc acggcaagcg gtatccctgg ctgaatacat aggccagtgg aggcgaaccg 180
ggtgaactga aacatctcag tagctcgagg aaaagaaatc aaccgagatt ccgaaagtag 240
tggcgagcga aatcggaaga gcctttacga ttttagcattt tgcatagtcg aacggaatgg 300
aaagtccggc cgtagcaggt gatagccctg tagacgaaat gcagagtgtg gaactaggcg 360
taagagaagt agggcgggac acgtgaaatc ctgtctgaag atggggggac catcctccaa 420
ggctaaatac tcgtgatcga ccgatagtga accagtaccg tgaggaaagg cgaaaagaac 480
cccgaagga gtgaaataga tcctgaaacc gtatgcatac aaacagtcgg agcctcttta 540
tggggtgacg gcgtaccttt tgtataatgg gtcagcgact tacattcagt ggcgagctta 600
accgaatagg gaaggcgtca gaanagcagt ccgaataggg cgtccagtcg ctgggtgtag 660
acccgaaacc agatgatcta cccatggcca ggttgaaggc acggtaacac gtcgtggagg 720
accgaaccca ctagtgttga aaaactaggg gatgagctgt ggataggggt gaaaggctaa 780
acaaatcttg aaatagctgg ttctctccga aaactattta ggtagtgcct caagtattac 840
tgcagggggt agagcactgt tatggctagg gggctcatggc gacttaccaa accatggcaa 900
actccgaata cctgcaagta cagcttggga gacagacgac cgggtgctaa cgtccggact 960
caagagggaa acaaccgaga ccgccagcta aggtcccgaa ttatcgctaa gtgggaaacg 1020
aagtgggaag gcatagacag tcaggagggt ggcttagaag cagccaccct ttaaagaaag 1080
cgtaatagct cactgatcga gtcgtcctgc gcggaagatg taacggctaa gcgataaacc 1140
gaagctgcgg gtgtgcactt ttagtgacgc ggtaggagag cgttctgtaa gcctgcgaag 1200
gtggcttgta aaggctgctg gaggtatcag aagtgcgaat gctgacatga gtagcgataa 1260
agggggtgaa aagccccctc gccgtaagtc caaggtttcc tgcgcaacgt tcacgggcgc 1320

tggggtgacg	gcgtaccttt	tgtataatgg	gtcagcgact	tacattcagt	ggcgagctta	600
accgaatagg	gaaggcgtca	gaanagcagt	ccgaataggg	cgccagtcg	ctgggtgtag	660
acccgaaacc	agatgatcta	cccatggcca	ggttgaaggc	acggtaacac	gtcgtggagg	720
accgaaccca	ctagtgttga	aaaactaggg	gatgagctgt	ggataggggt	gaaaggctaa	780
acaaatctgg	aaatagctgg	ttctctccga	aaactattta	ggtagtgcct	caagtattac	840
tgcagggggg	agagcactgt	tatggctagg	gggtcatggc	gacttaccaa	accatggcaa	900
actccgaata	cctgcaagta	cagcttgggg	gacagacgac	cgggtgctaa	cgcccgact	960
caagaggggaa	acaaccacga	ccgccagcta	aggtcccga	ttatcgctaa	gtgggaaacg	1020
aagtgggaag	gcatagacag	tcaggagggt	ggcttagaag	cagccaccct	ttaaagaaa	1080
cgtaatagct	cactgatcga	gtcgtcctgc	gcggaagatg	taacggctaa	gcgataaacc	1140
gaagctgcgg	gtgtgcactt	ttagtgacgc	ggtaggagag	cgttctgtaa	gcctgcgaag	1200
gtggcttgta	aaggctgctg	gaggatatcag	aagtgcgaat	gctgacatga	gtagcgataa	1260
aggggggtgaa	aagccccctc	gccgtaagtc	caaggtttcc	tgcgcaacgt	tcatcggcgc	1320
agggtgagtc	ggccccctaag	gcgaggcaga	gatgcgtagc	tgatgggaag	ctggttaata	1380
ttccagcacc	gtcgtacagt	gcgatggggg	gacggatcgc	ggaaggtcac	cagggtgttg	1440
gacgtccctg	ttgctgcatt	gaagatggcg	cttaggcaaa	tccgggcgcg	agaatcaagg	1500
gtgtggcacg	agcgagcaag	tctcgcgaag	tgattggaag	tggttccaag	aaaagcctct	1560
aagcttcagc	tgtacgagac	cgtaccgcaa	accgacacag	gtgggacggg	atgaatattc	1620
caaggcgctt	gagagaactc	aggagaagga	actcggcaaa	ttgataccgt	aacttcggga	1680
gaaggtatac	cctggtagtg	tgaagcctgc	gcgctgagca	tgaaggggtc	gcagagaatc	1740
ggtggctgcg	actgtttatt	aaaaacacag	cactctgcaa	agacgaaagt	cgacgtatag	1800
ggtgtgacgc	ctgcccgggtg	ccggaagggt	aagtgatggg	gtgcaagctc	ttgatcgaag	1860
ccccggtaaa	cggcggccgt	aactataacg	gtcctaagggt	agcgaaattc	cttgtcgggt	1920
aagttccgac	ctgcacgaat	ggcgtaacga	tggccacact	gtctcctcct	gagactcagc	1980
gaagttgaag	tgtttgtgat	gatgcaatct	accgcgggt	agacggaaa	accccatgaa	2040
cctttactgt	agctttgcat	tggactgtga	accggcctgt	gtaggatagg	tgggaggcgc	2100
agaactcgag	tcgccagatt	cgagggagcc	atccttgaaa	taccaccctg	gtttgtttgc	2160
ggttctaacc	ttggtccgtt	atccggatcg	gggacagtgc	atggtaggca	gtttgactgg	2220
ggcggctctc	tcccaaagcg	taacggagga	gttcgaagggt	acgctaggta	cggtcggaaa	2280
tcgtgctgat	agtgcaatgg	cataagcgtg	cttgactgtg	agactgacag	tcgaacaggt	2340
gcgaacggga	catagtgatc	cggtggttct	gatggaaggg	ccatcgctca	acggataaag	2400
gtactctggg	ataacaggct	gataccgccc	aagagttcat	atcgacggcg	gtgtttggca	2460
cctcgatgtc	ggctcatctc	atcctggggc	tgtagccgggt	ccaaggggat	gctgttcgcc	2520
atttaaagag	gtacgtgagc	tgggtttaa	acgtcgtgag	acagtttggt	ccctatctgc	2580
cgtgggcgtt	ggataacttga	acaggagcct	gtcctagta	cgagaggacc	ggagtggacg	2640
tacctctggt	gtaccggttg	tcatgccaat	ggcattgccg	ggtagctaa	tacggaagag	2700
ataaccgctg	aaggcatcta	agcggaaact	cgtctgaaga	ttaggtatcc	cgggactaga	2760
ttcccctgaa	gggtcgttcg	agaccaggac	gttgataggt	cgggtgtgga	agcgcagtaa	2820
tgcgttaagc	taaccgatac	taattgcccc	tgaggcttga	tcct		2864

<210> 66

<211> 2878

<212> DNA

<213> Burkholderia cepacia

<400> 66

ggtcaagcga acaagtgcac gtggtggatg ccttggcgat cacaggcgat gaaggacgcg 60

gtagcctgcg	aaaagctacg	gggagctggc	aaacaagctt	tgatccgtag	atgtccgaat	120
ggggaaaccc	actccttttg	gagtatccat	ggctgaatac	ataggccatg	cgaaggaacg	180
cggatgaactg	aaacatctaa	gtaaccgcag	gaaaagaaat	caaccgagat	tcccaaagta	240
gtggcgagcg	aaatgggatg	agccttgcac	tctttatttg	tattgttagc	cgaacgctct	300
ggaaagtgcg	gccatagcag	gtgatagccc	tgtaggcgaa	aacagtatga	aagaactagg	360
tgtgcgacaa	gtagggcggg	acacgtgaaa	tcctgtctga	agatgggggg	accatcctcc	420
aaggctaaat	actcgtgatc	gaccgatagt	gaaccagtac	cgtgagggaa	aggcgaaaaag	480
aaccccgga	ggggagtga	atagatcctg	aaaccgcatg	catacaaaca	gtcggagcct	540
cgttaaggggt	gacggcgtag	cttttgtata	atgggtcagc	gacttacgtt	cagtagcaag	600
cttaaccgta	tagggcaggc	gtaggaaagg	agtccgaata	gggcgttcag	ttgctgggcg	660
tagaccgaa	accaggtgat	ctatccatgg	ccaggatgaa	ggtgcggtaa	cacgtactgg	720
aggtccgaac	ccactaacgt	tgaaaagtta	ggggatgagc	tgtggatagg	ggtgaaaggc	780
taaacaaacc	tggaaatagc	tggttctctc	cgaaaactat	ttaggtagt	cctcgtgtct	840
caccttcggg	ggtagagcac	tgtcatgggt	ggggggtcta	ttgcagatta	ccccgccata	900
gcaaaactccg	aataccgaag	agtgaatca	cgggagacag	acatcgggtg	ctaacgtccg	960
gtgtcaagag	ggaaacaacc	cagaccgcca	gctaagggtcc	ccaaatatag	ctaagtggga	1020
aacgaagtgg	gaaggctaaa	acagtcagga	ggttggtcta	gaagcagcca	ccctttaaaag	1080
aaagcgtaaat	agctcactga	tcgagtcgtc	ctgcgcggaa	gatgtaacgg	ggctaagcta	1140
tataccgaag	ctgcggatgc	gtgctttgca	cgatggtagg	agagcgttcc	gtaagcctgc	1200
gaaggtgcct	tgtaaagggt	gctggaggta	tcggaagtgc	gaatgctgac	atgagtagcg	1260
ataaaggggg	tgaaaggccc	cctcgccgta	agcccaaggt	ttcctacgca	acgttcacgc	1320
gcgtagggtg	agtcggcccc	taaggcgagg	cagaaatgcg	tagctgatgg	gaagcaggtc	1380
aatattcctg	caccattggt	agatgcgatg	gggggacgga	tcgcggaagg	ttgtccgggt	1440
gttggaagtc	ccggtcgctg	cattggagaa	ggcgcttagg	caaatccggg	cgcagaattc	1500
aagggtgtgg	cgcgagctcc	ttcgggagcg	aagcaattgg	aagtggttcc	aagaaaagcc	1560
tctaagcttc	agtctaacga	tgaccgtacc	gcaaaccgac	acaggtgggc	gagatgagta	1620
ttctaaggcg	cttgagagaa	ctcgggagaa	ggaactcggc	aaattgggtac	cgtaacttcg	1680
ggataaggta	cgcccttgta	gcttgactgg	cctgcgccag	gagggtgaag	gggttgcaat	1740
aaactgggtg	ctgcgactgt	ttaataaaaa	cacagcactc	tgcaaacacg	aaagtggacg	1800
tatagggtgt	gacgcctgcc	cggtgccgga	agattaaatg	atggggtgca	agctcttgat	1860
tgaagtcccg	gtaaacggcg	gccgtaacta	taacggtcct	aaggtagcga	aattccttgt	1920
cgggtaagtt	ccgacctgca	cgaatggcgt	aacgatggcc	acactgtctc	ctcccgagac	1980
tcagcgaagt	tgaagtgttt	gtgatgatgc	aatctacccg	cggctagacg	gaaagacccc	2040
atgaaccttt	actgtagctt	tgcattggac	tttgaaccga	tctgtgtagg	atagggtggga	2100
ggctatgaaa	ccggaacgct	agtttcggtg	gagccgtcct	tgaaatacca	ccctgggttg	2160
tttgaggttc	taaccttggc	ccgtgatccg	ggtcggggac	agtgcaggt	aggcagtttg	2220
actggggcgg	tctcctccca	aagcgtaacg	gaggagtacg	aaggtagcgt	aggtagcgtc	2280
ggaaatcgtg	ctgatagtgc	aatggcataa	gcgtgcttaa	ctgcgagacc	gacaagtcga	2340
gcagggtgca	aagcaggtea	tagtgatccg	gtggttctgt	atggaagggc	catcgctcaa	2400
cggataaaaag	gtactctggg	gataacaggc	tgataaccgcc	caagagttca	tatcgacggc	2460
ggtgttttggc	acctcgatgt	cggctcatct	catcctgggg	ctgtagccgg	tcccaagggt	2520
atggctgttc	gccatttaaa	gaggtagctg	agctgggttt	aaaacgtcgt	gagacagttt	2580
ggtccctatc	tgccgtgggc	gttgatatt	tgaagggggc	tgctcctagt	acgagaggac	2640
cggagtggac	gaacctctgg	tgtaccggtt	gtcacgccag	tggcatcgcc	gggtagctat	2700
gttcggaaga	gataaccgct	gaaagcatct	aagcgggaaa	ctcgccttaa	gatgagatat	2760
ccctggggac	tagatccctt	tgaagggtcg	ttcgagacca	ggacgttgat	aggtagcgtg	2820
tgtaaagcgca	gtaatgcgtt	cagctaactg	atactaattg	cccgtaaagg	ttgatcct	2878

<210> 67
<211> 2882
<212> DNA
<213> Burkholderia mallei

<400> 67
gggtcaagcga acaagtgcag gtgggtggatg ccttggcgat cacaggcgat gaaggacgcg 60
gtagcctgcg aaaagctacg gggagctggc aaacgagctt tgatccgtag atgtccgaat 120
ggggaaaccc ggcccttttg ggtcatccta gactgaatac ataggtctag tgaggcgaaac 180
gcggtgaact gaaacatcta agtaaccgca ggaaaagaaa tcaaccgaga ttcccaaagt 240
agtggcgagc gaaatgggaa gagcctgtac tctttatttg tattgttagc cgaacgctct 300
ggaaagtgcg gccatagcag gtgatagccc tgtaggcgaa aacagtatga aagaactagg 360
tgtacgacaa gtagggcggg acacgtgaaa tcctgtctga agatgggggg accatcctcc 420
aaggctaaat actcgtgatc gaccgatagt gaaccagtac cgtgagggaa aggcgaaaag 480
aaccgccgga ggggagtgaa atagatcctg aaaccgcatg catacaaaca gtcggagcct 540
cttcgggggt gacggcgtag cttttgtata atgggtcagc gacttacgtt cagtagcaag 600
cttaaccgaa tagggcaggc gtagcgaaag cgagtccgaa tagggcgctt agttgctggg 660
cgtagaccgc aaaccaggtg atctatccat ggccaggatg aaggtgcggt aacacgtact 720
ggaggtccga acccactaac gttgaaaagt taggggatga gctgtggata ggggtgaaag 780
gctaaacaaa cctggaaata gctggttctc tccgaaaact atttaggtag tgccctcgtg 840
ctcaccttcg ggggtagagc actgtcatgg ttgggggggc tattgcagat taccgccca 900
tagcaaacctc cgaataccga agagtgcaat cacgggagac agacatcggg tgctaacgtc 960
cgggtgtcaag agggaaacaa cccagaccgc cagctaaggt ccccaaatat ggctaagtgg 1020
gaaacgaagt gggaaggcta aaacagtcag gaggttggtc tagaagcagc cacccttta 1080
agaaagcgta atagctcact gatcgagtcg tcctgcgcgg aagatgtaac ggggctaagc 1140
catataccga agctgcggat gcgagctagt ctgcgatggt aggagagcgt tccgtaagcc 1200
tgcgaaagtg cgttgaaaag cgtgctggag gtatcggaag tgcgaatgct gacatgagta 1260
gcgataaagg gggtgaaagg cccctcgcgc gtaagcccaa ggtttcctac gcaacgttca 1320
tcggcgtagg gtgagtcggc ccctaaggcg aggcagaaat gcgtagctga tgggaagcag 1380
gtcaatattc ctgcaccgtc gttagatgcg atggggggac ggatcgcgga aggttgtccg 1440
gggtgttgaa gtcccgtcg ctgcattgga gaaggcgctt aggc aaatcc gggcgagga 1500
ttcaagggtg tggcgcgagc tccttcggga gcgaagcaat tggaagtgg tccaagaaaa 1560
gcctctaagc ttcagtctaa cgatgaccgt accgcaaacc gacacagggtg ggcgagatga 1620
gtattctaag gcgcttgaga gaactcggga gaaggaaact ggcaaattgg taccgtaact 1680
tcgggataag gtacgccctg gtagcttgac tggcctgcgc cagaagggtg aaggggttgc 1740
aataaactgg tggctgcgac tgtttaataa aaacacagca ctctgcaaac acgaaagtgg 1800
acgtataggg tgtgacgcct gcccggtgcc ggaagattaa atgatgggg gcaagctctt 1860
gattgaagtc ccggtaaacg gcggccgtaa ctataacggt cctaaggtag cgaaattcct 1920
tgtcgggtaa gttccgacct gcacgaatgg cgtaacgat gccacactgt ctccctccga 1980
gactcagcga agttgaagt tttgtgatga tgcaatctac ccgcggttag acggaaagac 2040
cccatgaacc tttactgtag ctttgcattg gactttgaac cgatctgtgt aggatagggtg 2100
ggaggctatg aaaccggaat gctagtttcg gtggagccgt ccttgaaata ccaccctgg 2160
ttgtttgagg ttctaacctt ggcccgatg ccgggtcggg gacagtgcag ggtaggcagt 2220
ttgactgggg cggctctcct ccaaagcgta acggaggagt acgaaggtag gctaggtagc 2280
gtcggaaatc gtgctgatag tgcaatggca taagcgtgct taactgagag accgacaagt 2340
cgagcagggt cgaaagcagg tcatagtgat ccggtggttc tgtatggaag ggccatcgct 2400
caacggataa aagggtactt ggggataaca ggctgatacc gcccaagagt tcatatcgac 2460

100999 10001

tgctcgggtaa gttccgacct gcacgaatgg cgtaacgatg gccacactgt ctccctcccga 1980
gactcagcga agttgaagtg tttgtgatga tgcaatctac ccgcggctag acggaaagac 2040
cccatgaacc ttactgtag ctttgcatg gactttgaac cgatctgtgt aggatagggtg 2100
ggaggctatg aaaccggaac gctagtttcg gtggagccgt ccttgaaata ccaccctggg 2160
ttgtttgagg ttctaacctt ggcccgtgat ccgggtcggg gacagtgcac ggtaggcagt 2220
ttgactgggg cgggtctctc ccaaagcgta acggaggagt acgaaggtag gctagggtacg 2280
gtcggaaatc gtgctgatag tgcaatggca taagcgtgct taactgcgag accgacaagt 2340
cgagcagggtg cgaaagcagg tcatagtgat ccgggtgggtc tgtatggaag ggccatcgct 2400
caacggataa aaggtagctt ggggataaca ggctgatacc gcccaagagt tcatatcgac 2460
ggcgggtgtt ggacacctga tgctcggctca tctcatcctg gggctgtagc cgggtcccaag 2520
ggtagtgctg ttccgccatt aaagaggtag gtgagctggg tttaaaacgt cgtgagacag 2580
tttggtccct atctgccgtg ggcgttgga gtttgaaggg ggctgtcct agtacgagag 2640
gaccggagtg gacgaacctc tgggtgaccg gttgtgacgc cagtcgcac gccgggtagc 2700
tatgttcgga agagataacc gctgaaagca tctaagcggg aaactcgcct taagatgaga 2760
cttccccggg gacttgatcc ctttgaaggg tcgttcgaga ccaggacgtt gataggctcg 2820
gtgtgtaagc gcagtaatgc gttcagctaa ccgatactaa ttgcccgtac ggcttgatcc 2880
ta 2882

<210> 69

<211> 2890

<212> DNA

<213> *Neisseria gonorrhoeae*

<400> 69

ggtcaagtga ataagtgcac caggcgggatg ccttggcgat gataggcgac gaaggacgtg 60
taagcctgcg aaaagcgcgg gggagctggc aataaagcta tgattccgcg atgtccgaat 120
ggggaaaccc actgcattct gtgcagtatc ctaagttgaa tacataggct tagagaagcg 180
aaccgggaga actgaacat ctaagtaccc ggaggaaaag aaatcaaccg agattccgca 240
agtagtggcg agcgaacgcg gaggagcctg tacgtaataa ctgtcgagat agaagaacaa 300
gctgggaagc ttgaccatag cgggtgacag tcccgtattc gaaatctcaa cagcggtagt 360
aagcgtacga aaagtagggg gggacacgtg aaatcctgtc tgaatatggg gggaccatcc 420
tccaaggcta aatactcatc atcgaccgat agtgaaccag taccgtgagg gaaaggcgaa 480
aagaaccccg ggagggaagt gaaacagaac ctgaaacctg atgcatacaa acagtgggag 540
cgccctagtg gtgtgactgc gtacctttt tataatgggt caacgactta cattcagtag 600
cgagcttaac cggatagggg aggcgtaggg aaaccgagtc ttaatagggc gatgagttgc 660
tgggtgtaga cccgaaaccc agtgatctat ccatggtcag gttgaagggt ccgtaacagg 720
tactggagga ccgaaccac gcatgttgca aaatgcgggg atgagctgtg ggtaggggtg 780
aaaggctaaa caaactcgga gatagctggg tctccccgaa aactatttag gtagtgctc 840
gagcaagaca ctgatggggg taaagcactg ttatggctag ggggttattg caacttacca 900
acccatggca aactcagaat accatcaagt ggttcctcgg gagacagaca gcgggtgcta 960
acgtccgttg tcaagaggga aacaaccag accgccggct aagggtccaa atgatagatt 1020
aagtggtaaa cgaagtggga aggcacagac agccaggatg ttggcttaga agcagccatc 1080
atttaaagaa agcgtaatag ctactgggtc gagtcgtcct gcgcggaaga tgtaacgggg 1140
ctcaaatcta taaccgaagc tgcggatgcc ggtttaccgg catggtaggg gagcgttctg 1200
taggctgatg aagggtgcatt gtaaagtgtg ctggagggtat cagaagtgcg aatgttgaca 1260
tgagtagcga taaagcgggt gaaaagccc ctcgccgaaa gcccaagggt tcctacgcaa 1320
cgttcacatcg cgtagggtaa gtcggcccct aaggcgaggc agaaatgcgt agtcgatggg 1380

ggaaagtgcg	gccatagtgg	gtgatagccc	cgtacgcgaa	aggatctttg	aagtgaaatc	360
gagtaggacg	gagcacgaga	aacttttgtct	gaacatgggg	ggaccatcct	ccaaggctaa	420
atactactga	ctgaccgata	gtgaaccagt	accgtgaggg	aaaggcgaaa	agaaccccg	480
agaggggagt	gaaatagaac	ctgaaaccgt	atgcgtacaa	gcagtgggag	cctacttgtt	540
aggtgactgc	gtaccttttg	tataatgggt	cagcgactta	tattcagtgg	caagcttaac	600
cgtatagggt	aggcgtagcg	aaagcgagtc	ttaatagggc	gtttagtcgc	tgggtataga	660
cccgaaccg	ggcgatctat	ccatgagcag	gttgaagggt	aggtaacact	gactggagga	720
ccgaaccac	tcccgttgaa	aaggtagggg	atgacttgtg	gatcggagtg	aaaggcta	780
caagctcgga	gatagctggg	tctcctcgaa	agctatttag	gtagcgccct	atgtatcact	840
ctggggggta	gagcactggt	tccgctaggg	ggtcaccccg	acttaccaa	ccgatgcaa	900
ctccgaatac	ccagaagtgc	cgagcatggg	agacacacgg	cgggtgctaa	cgtccgtcgt	960
gaaaagggaa	acaaccacga	ccgccagcta	aggtcccaaa	gttgtgggta	agtggtaa	1020
gatgtgggaa	ggcttagaca	gctaggaggt	tggcttagaa	gcagccaccc	tttaaagaaa	1080
gcgtaaatgc	tactagtctg	agtcggcctg	cgcggaagat	gtaacggggc	tcaaacaca	1140
caccgaagct	gcgggtgtca	cgtaagtgc	gcggtagagg	agcgttctgt	aagcctgtga	1200
aggtgagttg	agaagcttgc	tggaggatc	agaagtgcga	atgctgacat	gagtaacgac	1260
aatgggtgtg	aaaaacaccc	acgccgaaag	accaagggtt	cctgcgcaac	gttaatcgac	1320
gcaggggttag	tcggttccta	aggcgaggct	gaaaagcgta	gtcgatggga	aacagggtta	1380
tattctgtga	cttctgggta	ctgcgatgga	gggacggaga	aggctaggcc	agcttggcgt	1440
tggttgtcca	agtttaaggt	ggtaggctga	aatcttaggt	aaatccgggg	tttcaaggcc	1500
gagagctgat	gacgagtcgt	cttttagatg	acgaagtggg	tgatgccatg	cttccaagaa	1560
aagcttctaa	gcttcaggta	accaggaacc	gtaccccaaa	ccgacacagg	tggtcgggta	1620
gagaatacca	aggcgcttga	gagaactcgg	gtgaaggaac	taggcaaaat	ggcaccgtaa	1680
cttcgggaga	aggtgcgccg	gctagggtga	aggatttact	ccgtaagctc	tggctggctc	1740
aagataccag	gccgctgcga	ctgtttatta	aaaacacagc	actctgcaa	cacgaaagt	1800
gacgtatag	gtgtgacgcc	tgcccggtgc	cggaagggta	attgatgggg	ttagcgcaag	1860
cgaagctctt	gatcgaagcc	ccggtaaacc	gcggccgtaa	ctataacggg	cctaaggtag	1920
cgaaatcct	tgtcgggtaa	gttccgacct	gcacgaatgg	cgtaacgatg	gcggcgctgt	1980
ctccaccga	gactcagtga	aattgaaatc	gctgtgaaga	tgcagtgtat	ccgcggctag	2040
acggaagac	cccgtgaacc	tttactgtag	ctttgcactg	gactttgagc	ctgcttgtgt	2100
aggataggtg	ggaggctttg	aagcgtggac	gccagttcgc	gtggagccat	ccttgaaata	2160
ccacctggc	atgcttgagg	ttctaactct	ggtcgcta	ccggatcgag	gacagtgtat	2220
ggtgggcagt	ttgactgggg	cggctctcct	ctaaagagta	acggaggagt	acgaagggtc	2280
gctcagaccg	gtcggaaatc	ggtcgcagag	tataaaggca	aaagcgcgct	tgactgcgag	2340
acagacacgt	cgagcaggta	cgaaagtagg	tcttagtgat	ccggtgggtc	tgtatggaag	2400
ggccatcgct	caacggataa	aaggtaactc	ggggataaca	ggctgatacc	gccaagagt	2460
tcatatcgac	ggcgggtgtt	ggcacctcga	tgtcgggtca	tcacatcctg	gggctgaagc	2520
cgggtcccaag	ggtatggctg	ttcgccattt	aaagtgggtac	gcgagctggg	tttagaacgt	2580
cgtgagacag	ttcggtccct	atctgccgtg	gacgtttgag	atttgagagg	ggctgctcct	2640
agtacgagag	gaccggagtg	gacgaacctc	tggtgttcgg	gttgtcacgc	cagtggcatt	2700
gccgggtagc	tatgttcgga	aaagataaacc	gctgaaagca	tctaagcggg	aaacttgcct	2760
caagatgaga	tctcactggg	aacttgattc	ccctgaaggg	ccgtcgaaga	ctacgacgtt	2820
gataggctgg	gtgtgtaagc	gttgtgaggc	gttgagctaa	ccagtactaa	ttgcccgtag	2880
ggcttgacca	t					2891

<210> 72

<211> 2886

[illegible]

<400> 72

gctaagtga	ctaagcgta	acggtggatg	cctgggcagt	cagagggcat	gaaggacgta	60
ctaacttgcg	ataagcgcag	ataaggcagt	aagagccgtt	tgagtctgcg	atttccgaat	120
ggggaaaccc	aactgcataa	gcagttactg	ttaactgaat	acatagggta	acagagcaaa	180
ccgggggaac	tgaacatct	aagtaccccg	aggagaagaa	atcaaccgag	attccggtag	240
tagcggcgag	cgaacctgga	ttagccctta	agcactcgg	gaagtaggtg	aacaagctgg	300
aaagcttggc	gatacaggg	gatagccccg	taaccgacgc	ttcatcgagc	gtgaaatcga	360
gtagggcggg	acacgtgata	tcctgtctga	atatgggggg	accatcctcc	aaggctaaat	420
actcctgact	gaccgatagt	gaaccagtac	cgtgaggaaa	ggcgaaaaga	accctgtga	480
ggggagtga	atagaacctg	aaaccgtgta	cgtacaagca	gtaggagcac	cttcgtggtg	540
tgactgcgta	ccttttgtat	aatgggtcag	cgacttatat	tcagtggcaa	ggttaaccgt	600
ataggggagc	cgtagcgaaa	gcgagtctta	actgggcgct	cagtctctgg	atatagacct	660
gaaaccgggt	gatctagcca	tgggcagggt	gaaggttgag	taacatcaac	tggaggaccg	720
aaccgactaa	tgttgaaaaa	ttagcggatg	acttgtggct	aggggtgaaa	ggccaatcaa	780
actcggagat	agctggttct	ccccgaaagc	tatttaggta	gcgcctcgga	cgaatactac	840
tgggggtaga	gcactgttaa	ggctaggggg	tcattcccgc	ttaccaacct	tttgcaaact	900
ccgaatacca	gtaagtacta	tcggggagac	acacggcggg	tgctaacgtc	cgctcgtggg	960
agggaaacaa	cccagaccgc	cagctaagg	cccaaagtat	tgctaagtgg	gaaacgatgt	1020
gggaaggctc	agacagctag	gatgttggct	tagaagcagc	catcatttaa	agaaagcgta	1080
atagctcact	agtcgagtcg	gcctgcgcgg	aagatgtaac	ggggctaagc	aatacaccga	1140
agctgcggca	atatctttta	gatattgggt	aggggagcgt	tctgtaagcc	gttgaagggt	1200
aatcgtaaag	tttgctggag	gtatcagaag	tgcgaaatgt	gacatgagta	acgacaaaag	1260
gggtgaaaaa	cctcctcgcc	ggaagaccaa	gggttcctgt	ccaacgttaa	tcggggcagg	1320
gtgagtcgac	ccctaagggt	aggccgaaa	gcgtaatcga	tgggaaacgg	gttaatatct	1380
ccgtacttct	gactattgcg	atggggggac	ggagaagggt	aggtgggcca	ggcgacgggt	1440
gtcctgggtc	aagtgcgtag	gcttgagagt	taggtaaatc	cggctctctc	taaggctgag	1500
acacgacgtc	gagctactac	ggtagtgaag	tcattgatgc	catgcttcca	ggaaaagcct	1560
ctaagcttca	gatagtcagg	aatcgtaacc	caaaccgaca	caggtggctg	ggtagagaat	1620
accaaggcgc	ttgagagaac	tcgggtgaag	gaactaggca	aaatggtacc	gtaacttcgg	1680
gagaaggtag	gctcttgatg	gtgaagtccc	tcgcggatgg	agctgacgag	agtcgcagat	1740
accaggtggc	tgcaactgtt	tattaaaaac	acagcactgt	gcaaaatcgc	aagatgacgt	1800
atacgggtgt	acgcctgccc	ggtgccggaa	ggttaattga	tggggttagc	gcaagcgaag	1860
ctcttgatcg	aagccccggt	aaacggcggc	cgtaactata	acggtcctaa	ggtagcgaaa	1920
ttccttgtcg	ggtaagttcc	gacctgcacg	aatggcgtaa	tgatggccac	gctgtctcca	1980
cccgagactc	agtgaatttg	aaatcgctgt	gaagatgcag	tgtaccgcg	gctagacgga	2040
aagaccccg	gaacctttac	tacagcttgg	cactgaacat	tgaacctaca	tgtgtaggat	2100
aggtgggagg	ctatgaagac	gtgacgccag	ttgcgttgga	gccgtccttg	aaataccacc	2160
cttgatatgt	tgatgttcta	acttagaccc	gttatccggg	ttgaggacag	tcctggtgg	2220
gtagtttgac	tggggcggtc	tcctcccaa	gagtaacgga	ggagcacgaa	ggtgggctaa	2280
tcacggttgg	acatcgtag	gttagtgcaa	tggcataagc	ccgcttaact	gcgagaatga	2340
cggttcgagc	aggtgcgaaa	gcaggtcata	gtgatccggt	ggttctgtat	ggaagggcca	2400
tcgctcaacg	gataaaaggt	actccgggga	taacaggctg	ataccgcca	agagttcata	2460
tcgacggcgg	tgtttggcac	ctcgatgtcg	gctcatcaca	tcctggggct	gaagtcggtc	2520
ccaaggggat	ggctgttcgc	catttaaagt	ggtacgcgag	ctgggtttag	aacgtcgtga	2580
gacagttcgg	tcctatctg	ccgtgggcgt	tggaagattg	aagggggctg	ctcctagtag	2640

'gagaggaccg gagtggacga acctctggtg ttcgggttgt gtcgccagac gcattgccc 2700
 gtagctaagt tcggaattga taagcgctga aagcatctaa gcgcgaagcg agccctgaga 2760
 tgagtcttcc ctgacagttt aactgtccta aagggttgtt cgagactaga acgttgatag 2820
 gcaggggtgtg taagcgttgt gaggcgttga gctaacctgt actaattgcc cgtgaggctt 2880
 aaccat 2886

<210> 73
 <211> 2906
 <212> DNA
 <213> Yersinia enterocolitica

<220>
 <221> modified_base
 <222> (1168)..(1178)

<400> 73
 ggttaagcga ccaagcgtag acggtggatg cctaggcagt cagaggcgat gaaggacgtg 60
 ctaatctgcg aaaagcgtag gtaaggtgat atgaaccgtt ataaccgacg ataccggaat 120
 ggggaaaccc agtgcaattc gttgcactat tgcattggtga atacatagcc atgcaaggcg 180
 aaccggggga actgaaacat ctaagtaccc cgaggaaaag aaatcaaccg agattcccc 240
 agtagcggcg agcgaacggg gagagaccca gaacctgaat cagcgtatgt gttagtggaa 300
 gcgtctggaa agtcgcacgg tacagggtag tagtcccgta caaaaaatg catatgttgt 360
 gagttcgatg agtagggcgg gacacgtgac atcctgtctg aatatggggg gaccatcctc 420
 caaggctaaa tactcctgac tgaccgatag tgaaccagta ccgtgaggga aaggcgaaaa 480
 gaaccccgcg gaggggagtg aaacagaacc tgaaaccgtg tacgtacaag cagtgggagc 540
 accttcgtgg tgtgactgcg taccttttgt ataattgggtc agcgacttat atttttagc 600
 aagggttaacc gaatagggga gccgtaggga aaccgagctt taactggcg aatagttgca 660
 aggtatagac ccgaaacccg gtgatctagc catgggcagg ttgaagggtg ggtaacacta 720
 actggaggac cgaaccgact aatgttgaaa aattagcgga tgacttgtgg ctgggggtga 780
 aaggccaatc aaaccgggag atagctggtt cccccgaaa gctatttagg tagcgcctcg 840
 tgaactcatc ttcgggggta gagcactgtt tcggctaggg ggtcatcccg acttaccaaa 900
 ccgatgcaaa ctccgaatac cgaagaatgt tatcacggga gacacacggc ggggtgtaac 960
 gtccgtcgtg aagagggaaa caaccagac cgccagctaa ggtcccaaag tcatggttaa 1020
 gtgggaaacg atgtgggaag gcacagacag ccaggatgtt ggcttagaag cagccatcat 1080
 ttaaagaaaag cgtaatagct cactggtcga gtcggcctgc gcggaagatg taacggggct 1140
 aaaccatgca ccgaagctgc ggcagcgnnn nnnnnnnnnn nnnnnnnngg ggagcgttct 1200
 gtaagccgtt gaaggtgacc tgtgagggtt gctggaggta tcagaagtgc gaatgctgac 1260
 ataagtaacg ataatgcggg tgaaaaaccc gcacgccgga agaccaaggg ttctgtcca 1320
 acgttaatcg gggcagggtg agtcgacccc taaggcgagg ctgaaaggcg tagtcgatgg 1380
 gaaacaggtt aatattcctg tacttgggtg tactgcgaag gggggacgga gaaggctatg 1440
 ctagccgggc gacggttgct ccggtttaag catgtaggcg gagtgaccag gtaaattccg 1500
 ttgcttatca acgctgaggt gtgatgacga gtcactacgg tgatgaagta gttgatgcca 1560
 tgcttcagg aaaagcctct aagcatcagg taacatgaaa tcgtaccca aaccgacaca 1620
 ggtggtcagg tagagaatac tcaggcgctt gagagaactc gggtagaagg actaggcaaa 1680
 atggtgccgt aacttcggga gaaggcacgc tgacacgtag gtgaagcggg ttaccctgtg 1740
 agctgaagtc agtcgaagat accagctggc tgcaactgtt tattaaaaac acagcactgt 1800
 gcaaacacga aagtggacgt atacggtgtg acgcctgccc ggtgctggaa ggttaattga 1860

TOGETHER

